Ontario

Ontario Geological Survey
Open File Report 6180

# Report of Activities, 2005
# Resident Geologist Program

## Red Lake Regional Resident Geologist Report:
## Red Lake and Kenora Districts

2006

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ONTARIO GEOLOGICAL SURVEY

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# Red Lake Regional Resident Geologist Report:
# Red Lake and Kenora Districts

by

A.F. Lichtblau, C. Ravnaas, C.C. Storey, A. Raoul, R. Gula and D. Saunders

2006

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# ONTARIO GEOLOGICAL SURVEY

# RESIDENT GEOLOGIST PROGRAM

# REPORT OF ACTIVITIES - 2005

# RED LAKE REGIONAL RESIDENT GEOLOGIST REPORT

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by

A.F. Lichtblau, C.C. Storey, R. Gula and D. Saunders

2006

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# RED LAKE REGIONAL RESIDENT GEOLOGIST—2005

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## INTRODUCTION

Gold was the only commodity mined in the Red Lake District in 2005. Based on year-end figures, production increased significantly over last year's total, to 825 586 ounces gold (Table 1; Figure 1).

**Table 1.** Mine production and reserves in the Red Lake District in 2005.

| Mine | Production in 2004 | | Production in 2005 | | Reserves Plus Resources (all categories) at end of 2005 | |
|---|---|---|---|---|---|---|
| | Tonnage @ Grade | Total Commodity | Tonnage @ Grade | Total Commodity | Tonnage | Grade |
| Goldcorp Inc Red Lake Mine[1] | 223 913 tonnes @ 77.15 g/t Au (246 882 tons @ 2.25 opt Au) | 551 886 ounces Au | 235 400 tonnes @ 82.0 g/t (259500 tons @ 2.39 opt) | 616 400 ounces Au | 6 450 000 tonnes (7 110 000 tons) | 35.7 g/t Au (1.04 opt Au) |
| Placer Dome (CLA) Ltd. Campbell Mine[2] | 446 000 tonnes @ 15.3 g/t Au (491 631 tons @ 0.45 opt Au) | 209 045 ounces Au | 440 000 tonnes @ 15.0 g/t Au (485 000 tons @ 0.44 opt Au) | 209 186 ounces Au | 17 427 000 tonnes (19 210 000 tons) underground | 11.0 g/t Au (0.32 opt Au) |

(1) Goldcorp Inc., news release, March 5, 2006.

(2) Placer Dome Inc., news release, February 20, 2006.

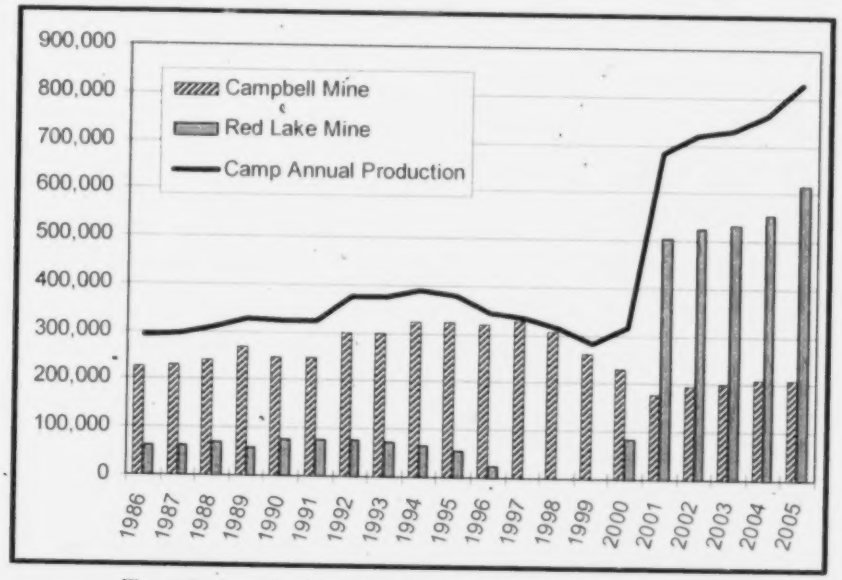


**Figure 1.** Annual gold production in the Red Lake belt, 1986–2005.
*(No production at the Red Lake Mine between 1997 and 1999 due to strike by unionized employees.)*

The price of gold continued to rise (Figure 2), closing the year with a December average price of US$510, an increase of 15% relative to the price (US$442) at year-end 2004.

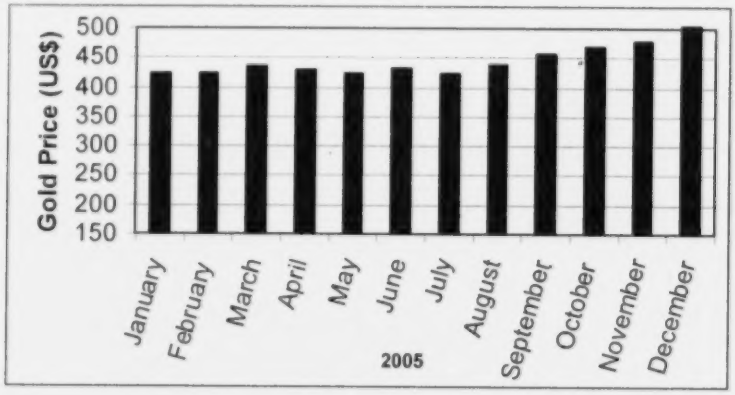


**Figure 2.** Average monthly price of gold.

Claim staking activity increased by 48% over last year's levels (Table 2). Ground in the Springpole Lake, Favourable Lake and Setting Net Lake areas was staked due to the increased prices for base and precious metals, and uranium.

**Table 2.** Summary of claims recorded in the Red Lake District, 2001–2005.

| Year | Cancelled (Claim Units) | Recorded (Claim Units) | Active (Claim Units) |
|---|---|---|---|
| 2005 | 5165 | 3117 | 16 911 |
| 2004 | 3690 | 2099 | 18 647 |
| 2003 | 1842 | 6781 | 21 127 |
| 2002 | 1795 | 7689 | 15 732 |
| 2001 | 290 | 291 | 2 269 |

During 2005, 74 assessment work and other technical reports were received in the Red Lake office. The total value of assessment work received in the Red Lake office in 2005 was $8 826 527. This figure includes $1 536 668 for work completed in 2005.

Staff of the Resident Geologist's office made 28 visits to active and inactive mineral properties, and gave 4 field trips in the Red Lake area. Field and office activities focussed on delivering high-quality services to the exploration and mining sector, the general public, other Ministries and the Municipality of Red Lake.

## MINING ACTIVITY

Gold was the only commodity produced in the Red Lake District in 2005. The takeover of Placer Dome Inc. by Barrick Gold, and the subsequent takeover of Placer Dome's North American assets by Goldcorp Inc., delayed the release of year-end production data and reserve figures. Historical statistics to the end of 2005 for all gold producers in the district are given in Table 3.

**Table 3.** Gold production in the Red Lake District to December 31, 2005.

| Mine | Years of Production | Ore Milled (Short Tons) | Gold Produced | |
|---|---|---|---|---|
| | | | Troy Ounces | Ounces per Ton |
| Campbell | 1949–Present[1] | 19 750 121 | 11 143 743 | 0.564 |
| Goldcorp (Dickenson) | 1948–Present[1,2] | 9 606 894 | 5 962 948 | 0.621[3] |
| Madsen | 1938–1976, 1997[4]–1999 | 8 678 143 | 2 452 388 | 0.283[5] |
| Cochenour–Willans | 1939–1971 | 2 311 165 | 1 244 279 | 0.538[6] |
| McKenzie Red Lake | 1935–1966 | 2 353 833 | 651 156 | 0.277 |
| Howey | 1930–1941, 1957[7] | 4 630 779 | 421 592 | 0.091[8] |
| Hasaga | 1938–1952 | 1 515 282 | 218 213 | 0.144 |
| Starratt Olsen | 1948–1956 | 907 813 | 163 990 | 0.181 |
| Berens River | 1939–1948 | 560 607 | 157 341 | 0.281 |
| Uchi | 1939–1943 | 757 074 | 114 467 | 0.151 |
| Jason (Argosy) | 1934–1952 | 276 573 | 101 875 | 0.368 |
| H.G. Young | 1960–1963 | 288 179 | 55 244 | 0.192 |
| Sachigo River | 1938–1941 | 46 457 | 52 560 | 1.131 |
| McMarmac | 1940–1948 | 152 978 | 45 246 | 0.296 |
| Gold Eagle | 1937–1941 | 180 095 | 40 204 | 0.223 |
| Jackson Manion | 1934–1940 | 105 357 | 27 142 | 0.258 |
| Red Lake Gold Shore | 1936–1938 | 86 333 | 21 100 | 0.244 |
| Hudson Patricia | 1936–1937 | 11 228 | 1857 | 0.165 |
| Buffalo | 1981–1982 | 31 986 | 1656 | 0.052 |
| Abino | 1985–1986 | 2733 | 1397 | 0.511 |
| Lake Rowan | 1986–1988 | 13 023 | 1298 | 0.100 |
| Mount Jamie | 1976 | 972 | 377 | 0.388 |
| Kostynuk Brothers | 1963–1966 | 577 | 1126 | 1.951 |
| Bobjo | 1929 | N/A | 362[9] | N/A |
| Bathurst | 1927–1937 | 562 | 307 | 0.546 |
| Red Summit | 1935–1936 | 591 | 277 | 0.469 |
| Sol d'Or | 1933–1936 | 458 | 258 | 0.563 |
| McFinley | 1987 | N/A | N/A | N/A |
| **TOTAL** | | **52 269 813** | **22 882 403** | **0.438** |

**Notes:** (1) Includes final production figures for 2005.

(2) For 1997, 1998 and 1999, no production due to strike by unionized employees.

(3) From 1970, includes production from Robin Red Lake.

(4) Includes clean up of ore and materials from the mine site.

(5) Historic grade, actual grade for 1999 was 0.14 ounce per ton gold.

(6) Includes production from Anneo and Wilmar properties.

(7) Continuous production 1930 to 1941; includes 268 ounces recovered from clean up in 1957.

(8) The ore mined at Howey, before sorting totalled 5 158 376 tons.
The average production from run-of-mine ore was therefore 0.0817 ounce per ton gold.

(9) Not included in total production figure

N/A Data not available

## Goldcorp Inc.–Red Lake Mine

Gold production for 2005 was 616 400 ounces, an 11.7% increase with a slightly increased cash cost of US $93 per ounce compared to US$92 per ounce in 2004. Gold sales increased to 814 200 ounces at an average price of $442 per ounce reflecting a large second quarter sale (199 300 ounces) of gold formerly held in inventory. The policy of retaining a third of the gold mined in inventory was discontinued effective April 1, 2005. The average mill head grade was 82 grams per tonne (2.62 ounces Au per tonne), a significant increase over last year (77 g/t). Recovery increased to 97%. Goldcorp issued regular monthly dividends of $0.015 per share all through 2005. Cash costs were virtually unchanged due to the stronger Canadian dollar. The US $100 million expansion project (shaft sinking, underground development and mill expansion) continued throughout the year. Shaft sinking reached 1408 m at the end of 2005 with development work to connect the shaft to existing workings ahead of schedule. Mill throughput will be expanded to 1130 tonnes per day. Completion of the shaft and related workings is targeted for late 2007, with the expanded mill ready in mid 2007. Total cost for the shaft and surface facilities is estimated at CDN $196 million with CDN $96 million outstanding (news release and 2005 Goldcorp Inc. Annual Report, March 5, 2006).

Late in 2004, Goldcorp Inc. and Wheaton River Minerals Ltd. jointly announced a proposed transaction that provided for Goldcorp to make a friendly take-over bid for Wheaton. This transaction was completed April 15, 2005, on the basis of 0.25 Goldcorp Inc. share for each Wheaton River Share (Goldcorp Inc., news release, April 18, 2005). Wheaton River Minerals Ltd. was delisted from the Toronto Stock Exchange (TSX) and the American Stock Exchange (AMEX). Late in 2005, Barrick Gold Corporation and Placer-Dome Inc. came to a friendly takeover agreement that would see some of Placer's assets transferred to Goldcorp Inc. Goldcorp will acquire Placer Dome's interest in the Campbell Mine, the Porcupine Joint Venture and the Musselwhite Joint Venture in Ontario, as well as a 50% interest in the La Coipa gold and silver mine in Chile and a 40% interest in the Pueblo Viego development project in the Dominican Republic. The purchase price of these assets will be US $1.485 billion in cash subject to any required consents and government approvals (news release, December 22, 2005).

Total ore reserves and resources (measured, indicated and inferred) for the Red Lake Mine are tabulated below (news release, March 6, 2005, www.goldcorp.com [accessed March 13, 2006]):

| Category | Tonnes | Grade (g/t) | Contained Ounces (million) |
|---|---|---|---|
| Proven Reserves | 800 000 | 63.5 | 1.62 |
| Probable Reserves | 2 030 000 | 50.42 | 3.30 |
| **Subtotal** | 2 830 000 | 53.98 | 4.92 |
| Measured resources | 300 000 | 11.77 | 0.12 |
| Indicated Resources | 1 730 000 | 14.60 | 0.81 |
| **Subtotal** | 2 030 000 | 14.17 | 0.93 |
| Inferred Resources | 1 590 000 | 30.55 | 1.57 |

The mine employed approximately 542 operations employees, including 150 Goldcorp staff, 356 Dynatec Corp. underground operations personnel and 36 Major Drilling Group underground drillers. The expansion project includes 100 Cementation Canada personnel engaged at No.3 shaft, 4 Merit Consulting and 17 contractors. Claude Lemasson was Mine Manager.

## Placer Dome Inc.–Campbell Mine

The Campbell Mine continued operation throughout the year. Year-end results indicated production comparable to previous year, at 209 186 ounces gold, at a grade of 15.0 g/t Au and recovery of 96.3% (Placer Dome Inc., news release, February 20, 2006). Cash cost of US $312 was up 13% from 2004 due to the appreciation of the Canadian dollar, elevated cost of consumables and the lower grade of stockpiled mill feed.

Underground exploration drilling intersected the extension of Goldcorp Inc.'s "High-grade zone" at depth on the Campbell Mine property (news release, December 19, 2005). The intersection is 75 m onto the Campbell property,

150 m from the deepest High Grade zone drill results published by Goldcorp, and is at a vertical depth of 2590 m. The intersection averaged 23 g/t Au over 3.4 m, including 122 g/t Au over 0.6 m. Wedge-off holes continue to test the zone at year-end.

During the year, Placer Dome continued to expand the DC zone ("Deep Campbell zone") with definition drilling between 1800 m and 1950 m depth encountering mineralization up to 77 g/t Au over 4.7 m, including 374 g/t Au over 0.6 m.

Year-end underground reserves and resources contained approximately 6 188 000 ounces gold, a 4% increase over previous year. With the addition of reserves and resources contained in tailings, this figure increases to 6 369 000 ounces gold.

| Category | Tonnes | Grade (grams gold per tonne) | Contained ounces gold |
|---|---|---|---|
| **Underground** | | | |
| Reserves (proven+probable) | 2 573 000 | 15.6 | 1 287 000 |
| Resources (measured+indicated) | 6 313 000 | 8.9 | 1 815 000 |
| Resources (inferred) | 8 541 000 | 11.2 | 3 086 000 |
| Subtotal | 17 427 000 | 11.0 | 6 188 000 |
| **Tailings** | | | |
| Reserves (proven+probable) | 2 931 000 | 1.7 | 163 000 |
| Resources (indicated) | 326 000 | 1.7 | 18 000 |
| Subtotal | 3 257 000 | 1.7 | 181 000 |
| **Grand Total** | **20 684 000** | | **6 369 000** |

At year-end, Placer Dome Inc. and Barrick Gold Corporation reached agreement on a friendly transaction under which Barrick agreed to offer US $10.4 billion for acquisition of Placer Dome (news release, December 22, 2005). Under a separate agreement, in the event that Barrick is successful in its bid, Goldcorp Inc. will acquire certain mining assets and other interests of Placer Dome, including the Campbell Mine, Placer Dome's interest in the Musselwhite and Porcupine Joint Ventures, as well as the La Coipa gold and silver mine in Chile; and a 40% interest in the Pueblo Viejo development project in the Dominican Republic.

## EXPLORATION ACTIVITY

Assessment work received is listed in Table 4, and a summary of exploration activity is given in Table 5. The 15% increase (from the December average of US $442 in 2004, to US $510 in 2005) in the price of gold, coupled with exploration successes by several companies, sustained high exploration interest in the Red Lake District again this year.

Table 5 lists the companies and individuals who reported some activity on their property during 2005; several are described in more detail in the following pages. Programs with significant exploration expenditures and/or significant known results, and properties for which the location is of particular strategic or geologic interest are described below. Programs numbered in Table 5 are keyed to Figures 3, 4, 5, 6, 7 and 8.

Information included in this section is taken from assessment files in the Red Lake Resident Geologist's office, unless otherwise indicated. Company press releases, technical reports and management discussion and analysis reports are available on SEDAR® (System for Electronic Document Analysis and Retrieval; *see* SEDAR Home Page), a publicly accessible database of corporate documents required by Canadian securities regulators for publicly traded companies.

**Table 4.** Assessment files and other technical reports received in the Red Lake District in 2005.

**Abbreviations**

| | | | |
|---|---|---|---|
| AEM | Airborne electromagnetic survey | IP | Induced polarization survey |
| AM | Airborne magnetic survey | Lc | Linecutting |
| ARA | Airborne radiometric survey | MMI | Mobile Metal Ion soil sampling survey |
| Beep | Beep Mat survey | OD | Overburden drilling |
| Bulk | Bulk sampling | ODH | Overburden drill hole(s) |
| DD | Diamond drilling | PEM | Pulse electromagnetic survey |
| DDH | Diamond drill hole(s) | PGM | Platinum group metals |
| DGP | Down-hole geophysics | Pr | Prospecting |
| GC | Geochemical survey | RES | Resistivity survey |
| GEM | Ground electromagnetic survey | Samp | Sampling (other than bulk) |
| GL | Geological Survey | Seismic | Seismic survey |
| GM | Ground magnetic survey | SP | Self-potential survey |
| GRA | Ground radiometric survey | Str | Stripping |
| Grav | Gravity survey | Tr | Trenching |
| HLEM | Horizontal loop electromagnetic survey | UG | Underground exploration/development |
| HM | Heavy mineral sampling | VLEM | Vertical loop electromagnetic survey |
| IM | Industrial mineral testing and marketing | VLFEM | Very low frequency electromagnetic survey |

| No. | Township or Area | Company Name | Year | Type of Work | AFRO Number | Work Credits Approved | Resident Geologist Office File Designation |
|---|---|---|---|---|---|---|---|
| 1 | Ball Tp. | Goldcorp Inc. (Middle Bay Property) | 2003–2004 | Pr, Samp, Assays | 2.29219 | $37 970 | Ball Tp. – 120 (202-2005) |
| 2 | Ball Tp. | Redstar Gold Corp. (Biron Bay and Pipestone North Projects) | 2005 | BB: DDH(3)=380 m, PN: DDH(1)=275 m, Samp, Assays | 2.29264 | $159 339 | Ball Tp. – 123 |
| 3 | Ball Tp. | Rubicon Minerals Corporation (Claim 1234205) | 2004 | Pr, Samp, Assays | 2.29802 | $994 | Ball Tp. – 124 |
| 4 | Balmer and Bateman townships | Rubicon Minerals Corporation (Adams Lake Property) | 2005 | DDH(2)=612.1 m, Samp, Assays | 2.29755 | $91 428 | Balmer Tp. – 166 |
| 5 | Bateman Tp. | Goldcorp Inc. (Bateman Project) | 2004 | GC, MMI | 2.29893 | $1420 | Bateman Tp. –149 |
| 6 | Bateman Tp. | Rubicon Minerals Corporation (East Bay Property) | 2004 | DDH(3)=1093.42 m, Samp, Assays | 2.29897 | $142 513 | Bateman Tp. –150 |
| 7 | Bateman Tp. | Rubicon Minerals Corporation (McFinley Property) | 2004 | Tr, GL, Samp, Assays, Work Recommendations | Non Assessment Technical Report | — | Bateman Tp. –147 |
| 8 | Belanger Tp. | Tribute Minerals Corporation (Garnet Lake Property) | 2003–2004 | DDH(4)=2262 m, Assays, DGP | 2.30335 | $293 740 | Belanger Tp. – 58 |
| 9 | Black Bear Lake Area | Rubicon Minerals Corporation/ Goldcorp Inc. (Red Lake North Property) | 2005 | DDH(3)=738.5 m, Samp, Assays | 2.30320 | $144 317 | 52N/04NE – 35 |
| 10 | Byshe Tp., and Heyson Tp. | Solitaire Minerals Corp. (Chukuni Property) | 2004 | Grav | 2.29695 | $28 783 | 52N/04SE – 64 (676-2005) |
| 11 | Byshe Tp., and Heyson Tp. | Williamsom, J.W./ Rubicon Minerals Corporation (Claim KRL1248397) | 2005 | Pr, Samp, Assay | 2.30348 | $1070 | Byshe Tp. – 66 |
| 12 | Casummit Lake Area | Denison Mines Ltd (Koezur Property KRL 526773) | 1982 | Samp, Assays | Non-Assessment | — | 52N/08W – 226 |

| No. | Township or Area | Company Name | Year | Type of Work | AFRO Number | Work Credits Approved | Resident Geologist Office File Designation |
|---|---|---|---|---|---|---|---|
| 13 | Casummit Lake Area | Denison Mines Ltd. (B. Crawford Property) | 1982 | Samp, Assays | Non-Assessment | — | 52N/08NW – 227 |
| 14 | Casummit Lake Area | Denison Mines Ltd. (Richardson Lake Anomaly) | 1982 | Data Compilation | Non-Assessment | — | 52N/08NW – 228 |
| 15 | Casummit Lake Area | Gold Canyon Resources Inc. (Springpole Lake Property) | 2004 | DDH(27)=2168 m, Samp, Assays | 2.30452 | $344 369 | 52N/08NW – 232 |
| 16 | Casummit Lake and Satterly Lake areas | Gold Canyon Resources Inc. (English Option Property) | 2005 | MMI | 2.30567 | $39 514 | 52N/08NW – 231 |
| 17 | Casummit Lake and Satterly Lake areas | Red Lake Resources Inc. (Springpole–Wagner Property) | 2004 | Pr, GL, Lc, GM, VLFEM | 2.28608 | $26 798 | 52N/08NW – 229 |
| 18 | Coli Lake Area | Grandcru Resources Corporation (Coli Lake Property–Coli West Grid) | 2005 | IP | 2.30460 | $15 274 | 52N/05SE – 26 |
| 19 | Coli Lake Area | Grandcru Resources Corporation (Coli West Property) | 2004 | GM | 2.30709 | $23 897 | 52N/05SE – 27 |
| 20 | Coli Lake Area | Planet Resources Inc./ Goldoorp Inc. (Sidace Property) | 2003–2004 | DDH(16)=9459.5 m | 2.29804 | $1 157 351 | 52N/05SE – 25 |
| 21 | Coli Lake Area | Red Lake Resources Inc./ Grandcru Resources Corporation (Coli Lake West Property) | 2004 | GM survey | 2.28868 | $34 916 | 52N/05SE – 22 |
| 22 | Coli Lake Area | Rubicon Minerals Corporation (Sidace Property) | 2004 | DDH(4)=2966.1 m | 2.29275 | $486 382 | 52N/05SE – 21 (256-2005) |
| 23 | Coli Lake, Sobeski Lake, and Blackbear Lake areas | Goldcorp Inc./ Planet Exploration Inc. (Sidace Lake Property) | 2003 | MMI, Assays | 2.29255 | $64 384 | 52N/05SE – 24 |
| 24 | Coli Lake, Sobeski Lake, Nungesser Lake, and Black Bear Lake areas | Goldcorp Inc./ Planet Exploration Inc. (Sidace Lake Property) | 2004 | DDH(4)=1904.7 m, Samp, Assays | 2.29805 | $230 344 | 52N/05SE – 23 |
| 25 | Curie Lake and Avis Lake areas | Getty Resources Ltd./ Buffalo Resources Ltd. (Papaonga Lake Property) | 1988 | DDH(6)=545 m, Samp, Assays, Pr | Non-Assessment Technical Report | — | 52K/16NE – 25 |
| 26 | Dent Tp. | Denison Mines Ltd. (Woman Lake Centre Syndicate) | 1982 | Samp, Assays | Non-Assessment | — | Dent Tp. – 114 |
| 27 | Dent Tp., and Mitchell Tp. | Denison Mines Ltd. (Medicine Rock Property) | 1982 | Samp, Assays | Non-Assessment | — | Dent Tp. – 115 |
| 28 | Dixie Lake Area | Alberta Star Development Corp. (Dixie Lake Project) | 2003–2004 | DDH(22)=6594 m, Resource Estimate, Work Recommendations | Non Assessment Technical Report | — | 52K/13SE – 67 |

| No. | Township or Area | Company Name | Year | Type of Work | AFRO Number | Work Credits Approved | Resident Geologist Office File Designation |
|---|---|---|---|---|---|---|---|
| 29 | Dixie Lake Area | Canadian Patricia Exploration Ltd. (Highwall Lake Property) | 1990 | GEM, GM | Non-Assessment Technical Report | — | 52K/13SE – 69 |
| 30 | Dixie Lake Area | Grandcru Resources Corporation (Dixie Lake North Property) | 2005 | DDH(6)=648.9 m | 2.30398 | $120 494 | RL5001 |
| 31 | Dixie Lake Area | Grandcru Resources Corporation (Dixie Lake North Property) | 2004 | GM | 2.30404 | $300 252 | RL5003 |
| 32 | Dixie Lake Area, and Bruce Lake Area | Grandcru Resources Corporation (Dixie Lake East /South Properties) | 2005 | AM | 2.29475 | $31 719 | 52K/13SE – 68 (447-2005) |
| 33 | Dixie Lake Area, South of Byshe and Willans townships Area | Grandcru Resources Corporation (Dixie North Property) | 2005 | HLEM | 2.30457 | $9588 | 52K/13SE – 70 |
| 34 | Dome Tp. | Goldcorp Inc. (Cochenour Willans Property) | 2004 | DDH(2)=449.8 m, Samp, Assays | 2.30286 | $89 060 | Dome Tp. – 236 |
| 35 | Dome Tp. | Placer Dome (CLA) Ltd. (McKenzie Project) | 2004 | GL, Samp, GC (Soil), Petrography | 2.28228 | $5698 | Dome Tp. – 234 (1241-2004) |
| 36 | Dome Tp. | Rubicon Minerals Corporation (McCuaig Property) | 2002–2004 | DDH(36)=6990.76 m, Assays | 2.29091 | $642 652 | Dome Tp. – 233 (92-2005) |
| 37 | Dome Tp. | Southern Star Resources Inc /Exall Resources Limited (Gold Eagle Joint Venture) | 2004 | Property Summary, Work Recommendations | Non-Assessment Technical Report | — | Dome Tp. – 232 |
| 38 | Dome Tp., Fairlie Tp., and Heyson Tp. | Cypress Development Corp. (McKenzie Project) | 2005 | DDH(14)=3059.9 m, Samp, Assays | 2.30124 | $367 080 | Dome Tp. – 235 |
| 39 | Dome Tp., and Heyson Tp. | Skyharbour Resources Ltd. (St. Paul's Bay Area–McKenzie Project) | 2005 | DDH(14)=3059.9 m, Samp, Assays | Non-Assessment Technical Report | — | Dome Tp. – 237 |
| 40 | Faulkenham Lake Area | Grandcru Resources Corporation (Clear Lake Property) | 2004 | Lc, HLEM, GM | 2.30258 | $20 093 | 52K/13NW – 27 |
| 41 | Fredart Lake and Gerry Lake areas | Tribute Minerals Corporation (Fredart Lake, Fredart West & Gerry Lake Properties) | 2003 | DDH(5)=1482 m, GL | 2.29955 | $165 666 | 52K/15NW – 41 |
| 42 | Goodall Tp. | Denison Mines Ltd. (Woman Lake Goldfields Development) | 1982 | Samp, Assays | Non-Assessment | — | Goodall Tp. – 52 |
| 43 | Goodall Tp., Dent Tp., Little Shabumeni Lake and Satterly Lake areas | Jilbey Enterprises Ltd. (Birch Lake – Uchi Lake Project) | 2004 | DDH(4)=1211.5 m, Samp, Assays | 2.29523 | $199 134 | Goodall Tp. – 53 (502-2005) |

| No. | Township or Area | Company Name | Year | Type of Work | AFRO Number | Work Credits Approved | Resident Geologist Office File Designation |
|---|---|---|---|---|---|---|---|
| 44 | Hanton Lake, Mongeau Lake, Sobeski Lake areas | Rampart Ventures Ltd / Inlet Resources Ltd (North Red lake Project) | 2004 | Overburden Tr, HM | 2.30170 | $12 441 | 52N/06NW – 11 |
| 45 | Heyson Tp., Baird Tp. | Solitaire Minerals Corp (Heyson and South Baird Projects) | 2004 | AM, AEM | 2.30717 | $15 784 | Heyson Tp. – 156 |
| 46 | Heyson Tp. | Herbert, Larry Kenneth (Claim KRL869702) | 2004 | Tr, GL, Samp, Assys | 2.28873 | $4340 | Heyson Tp. – 157 (1878-2005) (166-2005) |
| 47 | Heyson Tp., Byshe Tp. | Skyharbour Resources Ltd (Heyson Project) | 2004 | DDH(13)=2666 m, Samp, Assays | 2.30114 | $280 410 | Heyson Tp. – 152 |
| 48 | Honeywell Tp. | Teck Cominco Ltd (Honeywell Property) | 2003 | AM, Aerial Photo, GL, Samp (Rock: ICP-AES, Au), Till Samp | 2.28965 | $52 273 | Honeywell Tp –41 (1972-2005) |
| 49 | Keigat Lake Area | Denison Mines Ltd (D Thompson Property) | 1982 | Samp, Assays | Non-Assessment | — | 52N/08NE – 53 |
| 50 | Keigat Lake Area | Denison Mines Ltd (Grimshaw Property) | 1982 | Samp, Assays | Non-Assessment | — | 52N/08NE – 52 |
| 51 | Keigat Lake Area | Trade Winds Ventures Inc (Birch Lake Property) | 2004–2005 | 2005: DDH(5)=1874.8 m 2004: DDH(8)=2144.6 m | 2.30191 | $778 788 | RL 5005 |
| 52 | Keigat Lake Area | Trade Winds Ventures Inc (Birch Lake Property) | 2004 | AM, AEM, DDH(7)=2145 m | Non-Assessment Technical Report | — | RL 5006 |
| 53 | Keigat Lake Area, Casummuit Lake Area | Trade Winds Ventures Inc (Birch Lake Highgrade Island Project) | 2005 | AM, AEM, RES | 2.30199 | $60 345 | 52N/08NE – 55 |
| 54 | McDonough Tp. | Skyharbour Resources Ltd (Tomato Lake Project) | 2004 | Samp (Tills), OD(65), Pr | 2.29564 | $35 966 | McDonough Tp. – 83 (545-2005) |
| 55 | Ranger Tp. | Ansil Resources Ltd (Ranger Project) | 2004 | DDH(1)=365 m, Samp, Assays | 2.29042 | $65 034 | Ranger Tp. – 31 (46-2005) |
| 56 | Rapson Bay, Thorne Lake, Gilleran Lake, Stull Lake, and Lacey Creek areas | Lake Shore Gold Corp (AEM Property) | 2004 | Pr, Samp, Assays | 2.30138 | $39 431 | 53K/08NW – 18 |
| 57 | Satterly Lake Area | Denison Mines Ltd (Koezur Property K526772) | 1982 | Samp, Assays | Non-Assessment | — | 52N/08SW – 91 |
| 58 | Satterly Lake Area | Denison Mines Ltd (Hudson Bay Anomaly) | 1982 | Samp, Assays | Non-Assessment | — | 52N/08SW – 92 |
| 59 | Satterly Lake Area | Westchester Resources Inc (Satterly Lake Property) | 2004 | Samp, Assays, GC (soils) | 2.28726 | $31 337 | 52N/08SW – 94 |
| 60 | Shabumeni Lake Area, Honeywell Tp. | Fronteer Development Inc /Red Lake Resources Inc. (Swain – Sol d'Or Property) | 2004 | DDH(12)=1236 m, Assays | 2.28265 | $494 153 | 52N/07SE – 84 (1273-2004) |
| 61 | Skinner Tp. | Sabina Resources Ltd (Skinner Property) | 2004 | Pr, Tr, GL, Samp, Assays | 2.28769 | $74 603 | Skinner Tp. – 70 |
| 62 | Skinner Tp. | Sabina Resources Ltd (Skinner Property) | 2004 | Le (115 km), GM (115 km), and IP (73 km) | 2.30882 | $170 627 | RL 5004 |

| No. | Township or Area | Company Name | Year | Type of Work | AFRO Number | Work Credits Approved | Resident Geologist Office File Designation |
|---|---|---|---|---|---|---|---|
| 63 | Sobeski Lake, Nungesser Lake, Usick Lake, Hanton Lake, Pringle Lake areas | Rampart Ventures Ltd. (North Red Lake Project) | 2004 | AM | 2.30035 | $64 677 | 52N/06SW – 12 |
| 64 | Sobeski Lake, Nungesser Lake, Usick Lake, Hanton Lake, Pringle Lake areas | Rampart Ventures Ltd./ Inlet Resources Ltd. (North Red Lake Project) | 2004 | AM, GL, Pr, GC (Soil), Lc, GM, VLFEM, HLEM, Assays | 2.30171 | $171 002 | 52N/06SW – 13 |
| 65 | South of Otter Lake Area | Roscan Minerals Corporation (Confederation Lake Property) | 2004–2005 | AEM, AM, Lc (32 km), GM | 2.30229 | $76 003 | 52K/14NW – 70 |
| 66 | South of Otter Lake Area | Schellenberg, G. (Mag survey on KRL1248309 and KRL1248362 | 2005 | GM | 2.30053 | $9626 | 52K/14NW – 71 |
| 67 | South of Otter Lake Area | Tribute Minerals Corporation (Dixie Property) | 2003 | DDH(4)=3994 m, DGP, Samp, Assays | 2.29702 | $741 226 | 52K/14NW – 69 |
| 68 | South of Otter Lake Area, Gerry Lake Area | Tri Origin Exploration Ltd. (Confederation Project) | 2004 | GC (Soil) | 2.30570 | $2825 | RL5002 |
| 69 | Todd Tp., (Hammel Lake Area) | Goldcorp Inc. (Hall Bay Project) | 2004 | Lithogeochemical Samp | 2.29827 | $2023 | Todd Tp. – 179 |
| 70 | Willans Tp | Crossroads Explorations Inc. (Gullrock Property) | 2004–2005 | Pr, GEM | 2.30982 | $23 867 | RL5007 |
| 71 | Willans Tp | Rupert Resources Ltd. (Gullrock Property) | 2005 | DDH(2)=342.59 m | 2.30213 | $111 684 | Willans Tp. – 38 |
| 72 | Willans Tp | Tri Origin Exploration Ltd. (Red Lake Extension Property) | 2004 | GC (Soils), MMI | 2.30421 | $7473 | Willans Tp. – 36 |
| 73 | Willans Tp., Ranger Tp | Crossroads Explorations Inc. (Gullrock Property) | 2004 | Property Review, Work Recommendations | Non-Assessment Technical Report | — | Willans Tp. – 37 |
| 74 | Willans Tp., South of Otter Lake and Otter Lake areas, Ranger Tp | Tri Origin Exploration Ltd. (Red Lake Extension Property) | 2004 | Geophysical/remote sensing data compilation, GL, Pr, Lc, GM, GS (soil), IP, OD(53)=210 m, DDH(4)=651 m | 2.28754 | $227 350 | Willans Tp. – 35 (1761-2005) |

**Table 5.** Exploration activity in the Red Lake Resident Geologist District in 2005.

**Abbreviations**

| | | | |
|---|---|---|---|
| AEM | Airborne electromagnetic survey | IP | Induced polarization survey |
| AM | Airborne magnetic survey | Lc | Linecutting |
| ARA | Airborne radiometric survey | MMI | Mobile Metal Ion soil sampling survey |
| Beep | Beep Mat survey | OD | Overburden drilling |
| Bulk | Bulk sampling | ODH | Overburden drill hole(s) |
| DD | Diamond drilling | PEM | Pulse electromagnetic survey |
| DDH | Diamond drill hole(s) | PGM | Platinum group metals |
| DGP | Down-hole geophysics | Pr | Prospecting |
| GC | Geochemical survey | RES | Resistivity survey |
| GEM | Ground electromagnetic survey | Samp | Sampling (other than bulk) |
| GL | Geological Survey | Seismic | Seismic survey |
| GM | Ground magnetic survey | SP | Self-potential survey |
| GRA | Ground radiometric survey | Str | Stripping |
| Grav | Gravity survey | Tr | Trenching |
| HLEM | Horizontal loop electromagnetic survey | UG | Underground exploration/development |
| HM | Heavy mineral sampling | VLEM | Vertical loop electromagnetic survey |
| IM | Industrial mineral testing and marketing | VLFEM | Very low frequency electromagnetic survey |

| No. | Company/Individual (Occurrence Name) or Property | Township/Area (Commodity) | Exploration Activity |
|---|---|---|---|
| 1 | Amador Gold Corporation (Maskootch Lake Property) | Avis Lake Area (Au, Cu) | Option to earn 100% of property in July 2004. Lc, GM, GEM, Data compilation |
| 2 | Amador Gold Corporation (Todd Township Property) | Todd Township (Au) | Former Fahrenheit and Golden Arm Mines properties. Option to earn 100% of property in July 2004. Lc, GM, GEM, Data compilation |
| 3 | Anaconda Gold Corp./ Mercer International Mining (Borthwick Lake Property) | Setting Net Lake Area (Au) | Pr, Samp, GL |
| 4 | Ansil Resources Ltd. (Ranger Project) | Ranger Township (Au) | Lc, IP, GM (2.31147) |
| 5 | Canstar Resources Ltd. (75%)/ Luxor Exploration Inc (25%) (Slate Bay Property) | McDonough Township (Cu, Au, Ag) | IP, DDH(4)= 616.7 m ; Canstar has vested 75% interest and negotiating JV with Luxor (Canstar, news release, Dec. 12, 2005) |
| 6 | Canstar Resources Ltd. (100%) (Shrimp Lake Property) | Armstrong Lake Area (BM, Au) | AEM, AM |
| 7 | Canstar Resources Ltd. (100%) (Tahoe Lake Property) | Mattson Lake Area (BM, Au) | AEM, AM |
| 8 | Conquest Resources Limited (Alexander Project) | Balmer Township (Au) | IP over western part of property – extends Sulphide zone (news release, Aug. 25, 2005) |
| 9 | Continuum Resources Ltd./ Tribute Minerals Inc. (Richardson Lake–McIntyre Project) | Casummit Lake Area (Au) | DDH(18)=2346 m, Assays |
| 10 | Crossroads Explorations Inc (Gullrock Property) | Willans Township (Au) | Report preparation, (Pr, GEM in 2004) (2.30982) |
| 11 | Cypress Development Corp. (80%)/ Skyharbour Resources (20%) (McKenzie Island Property) | Dome Township (Au) | DDH(14)=3059.9 m, Samp, Assays (2.30124) Pr, IP, GC Cypress purchased western extension of Exall/Southern Star find, planning new drill program within 1 month (4 hole E-W fence (*Stockwatch*, December 9, 2005) |
| 12 | Dan McDougall Enterprises (Nungesser Lake Property) | Nungessor Lake and Pringle Lake areas (Au) | Lc, GM (2.30493) |
| 13 | Gold Canyon Resources Inc (Dole Lake and Sandy Point properties) | Casummit Lake and Keigat Lake areas (Au) | DDH(1)=590.6 feet |
| 14 | Gold Canyon Resources Inc (Springpole Property) | Casummit Lake Area (Au) | DDH(41)=33 584.3 feet; Samp, Assays; MMI (2.30567); GL, GC, Str, Samp, Assays |
| 15 | Gold Canyon Resources Inc / Shorcham Resources Ltd. (Favourable Lake Property) | Borland Lake and Favourable Lake North areas (Ag, Au, BM, Mo) | Pr, Samp, Assays |

| No. | Company/Individual (Occurrence Name) or Property | Township/Area (Commodity) | Exploration Activity |
|---|---|---|---|
| 16 | Goldcorp Inc (McKenzie Island Property) | Dome Township (Au) | DDH(4)=1494 m |
| 17 | Goldcorp Inc (BK Property) | Dome and Balmer townships (Au) | DDH(11)=3279 m |
| 18 | Goldcorp Inc (Dunlop Property) | Dome Township (Au) | DDH(6)=1995 m |
| 19 | Goldcorp Inc (Cochenour–Willans Property) | Dome Township (Au) | DDH(1 mother hole, 3 wedge holes)= 1226 m. Mine Rehab on Cochenour–Willans Mine site |
| 20 | Goldcorp Inc (South Serpentinite Project) | Dome Township (Au) | MMI |
| 21 | Goldcorp Inc. (50%)/ Planet Exploration Inc. (50%) (Sidace Lake Property) | Coli Lake Area (Au) | DDH(43)=12 890 m. Assays Goldcorp Inc. exercises option (news release, March 22, 2005) |
| 22 | Goldeye Explorations Limited (Sandy Lake Property) | Granite Bay and Rathouse Bay areas of Sandy Lake Area, Kakapitam Lake Area (Au) | Continued negotiations with the Sandy Lake First Nation regarding exploration work on the property (B. Webster, personal communication, January 2006) |
| 23 | Granderu Resources Corporation (Coli Lake East property) | Coli Lake Area (Au) | Le, IP (2.30460) GM (2.30709) Completed geological review and terminated option on Coli Lake East property (company management discussion & analysis report, July 31, 2005) |
| 24 | Granderu Resources Corporation (Coli Lake West property) | Coli Lake Area (Au) | Le, IP (2.30460) GM (2.30709) Completed geological review and terminated option on Coli Lake West property (news release, Apr. 22, 2005) |
| 25 | Granderu Resources Corporation (Dixie Lake East property) | Dixie Lake and Bruce Lake areas (Au) | AEM (2.29475) Completed geological review and terminated option on Dixie Lake East property (management discussion & analysis report, July 31, 2005) |
| 26 | Granderu Resources Corporation (Dixie Lake South Property) | Dixie Lake and Bruce Lake areas (Au) | GM, IP (2.30391) AEM (2.29475) |
| 27 | Granderu Resources Corporation (Dixie Lake North Property) | South of Byshe and Willans Area, Dixie Lake Area (Au) | Le, GEM (2.30457) DDH(6)=648.9m (2.30398), Samp, Assays Drilling intersected intensely silicified iron formation as well as quartz veining hosted in mafic metavolcanic and metasedimentary rocks. Anomalous Au and trace elements are reported from the quartz veins. |
| 28 | Granderu Resources Corporation (Clear Lake Property) | Faulkenham Lake Area (Au) | Data review, terminated option on property (news release, March 2, 2005) |
| 29 | Grandview Gold Inc / Goldcorp Inc (Red Lake Property) | Dome Township (Au) | Letter of intent to enter option and JV with Goldcorp Inc. (news release, July 20, 2005) Satellite image interpretation |
| 30 | Grandview Gold Inc / Fronteer Development Group Inc (Dixie Lake Property) | Dixie Lake Area (Au) | Optioned the Dixie Lake property from Fronteer Development Group Inc.; Grandview can earn 51% by exploration expenditures of $300 000, assuming $75 000 payment to property vendor and issuing 160 000 shares of Grandview to a third party (management discussion & analysis report, Oct. 26, 2005) DDH(16)=2765 m |
| *31 | Herbert, Larry Kenneth (Heyson Township) | Heyson Township (Au) | Str |
| 32 | Herbert, Larry Kenneth (Wolf Bay) | Todd Township (Au) | Pr |

| No. | Company/Individual (Occurrence Name) or Property | Township/Area (Commodity) | Exploration Activity |
|---|---|---|---|
| 33 | High River Acquisition Corp./ (Jammin Rock Resources) (Birch–Uchi Project Block 1) | Shabumeni Lake Area (Au, diamonds) | AEM, AM (2.31156) |
| 34 | High River Acquisition Corp./ (Jammin Rock Resources) (Birch–Uchi Project Block 2) | Shabu Lake Area and Skinner Township (Au, diamonds) | AEM, AM (2.31156) |
| 35 | Houston Lake Mining Corp (Pakeagama Lake Property) | Pakeagama Lake Area (Rare metal pegmatite) | Samp, Petrography, Geological interpretation |
| 36 | International Montoro Resources Inc./ Belmont Resources Ltd. (Shaver and Walsh Lake Property) | Bateman and Shaver townships (Au) | The companies signed an amended option agreement with the vendor in August 2005 (International Montoro, management discussion & analysis report, Jan. 25, 2006) |
| 37 | Kehoe, P.T. | Bluffy Lake Area (rare metal pegmatite) | Pr, Samp (2.30902) |
| 38 | King's Bay Gold Corp. (45%)/ Richview Resources Inc.(45%)/ Palomino Mining & Exploration (10%) (Headway Property) | Balmer and Dome townships (Au) | Lc, Str, Samp, VLFEM, GM, DDH(12)=4000 m |
| 39 | King's Bay Gold Corp. (50%)/ Goldcorp Inc. (50%) (Rowan Lake Gold Project) | Todd Township (Au) | Option agreement |
| 40 | King's Bay Gold Corp. (51%)/ Rubicon Minerals Corp. (49%) (Slate Bay Project) | McDonough Township (Au) | DDH (5)=1500 m, Assays |
| 41 | Lake Shore Gold Corp. (Lacey Lake Project) | Aljo Lake, Thorne Lake, Ellard Lake, Gummar Lakes and Lacey Creek areas (Au) | Staking, Pr, Samp, Assays, AM (2.30774) |
| 42 | MetalCORP Ltd./ Goldcorp Inc. (Black Bear property) | Blackbear Lake Area and Shaver Township (Au) | MMI, DDH(9)=2717 m |
| 43 | Placer Dome (CLA) Ltd./ Sabina Silver Corporation (formerly Sabina Resources Ltd.) (Redaurum Property) | Baird Township (Au) | Drill programs in 1st & 4th quarter by Placer Dome |
| 44 | Placer Dome (CLA) Ltd. (51%)/ Skyharbour Resources Ltd. (24.5%)/ Bayfield Ventures Corp. (24.5%) (Baird Project) | Baird Township (Au) | Placer Dome earns 51% interest (Skyharbour 4th quarter report) ; DDH(6)=1833 m, B05-01: 13.82 g/t Au over 0.7 m B05-06: 7.74 g/t Au over 0.5 m (news release, May 3, 2005) |
| 45 | Rampart Ventures Ltd. (Bearhead Lake Property) | Favourable Lake South Area (U) | Staking |
| 46 | Rampart Ventures Ltd./ Inlet Resources Ltd. (North Red Lake Project) | Sobeski Lake , Nungesser Lake , and Hanton Lake areas (Au) | Rampart relinquishes option (Inlet, news release, Apr. 27, 2005) |
| 47 | Redstar Gold Corp. (Newman–Todd Property) | Todd Township (Au) | Redstar options 100% Newman–Todd from AngloGold Ashanti (news release, Feb. 10, 2005) DDH(4)=733 m, Assays, intersected 69.02 g/t Au over 1.0 m (news release, Oct. 26, 2005) |
| 48 | Redstar Gold Corp. (West Red Lake Property) | Ball Township (Au) | Redstar renegotiates option agreement on West Red Lake Property with Rubicon Minerals (news release, Feb. 9, 2005) |
| 49 | Red Lake Resources Inc. (Various) | Byshe and Killala townships, Satterly and Colt Lake areas | Red Lake relinquishes options on Keg Lake, Laird Lake, Horseshoe Island, Wagner Bay, Colt Lake, Leonard Lake and Killala properties (news release, May 10, 2005) |
| 50 | Roscan Minerals Corporation (Confederation Lake Property) | South of Otter Lake Area (Cu, Zn, Ag) | Lc, GM (2.30229) |
| 51 | Rubicon Minerals Corporation (DMC Property) | Dome Township (Au) | Optioned to Agnico-Eagle Mines (news release, Oct. 11, 2005) |

| No. | Company/Individual (Occurrence Name) or Property | Township/Area (Commodity) | Exploration Activity |
|---|---|---|---|
| 52 | Rubicon Minerals Corporation (McFinley Gold Project) | Bateman Township (Au) | DDH(41)=7491 m, Assays, Phoenix Zone DDH(20)=6562 m, McFinley property |
| 53 | Rubicon Minerals Corporation/ Goldcorp Inc (Adams Lake Property) | Balmer and Bateman townships (Au) | DDH(2)=612.1m, Samp, Assays (2.29755) DDH(5)=1346.8 m (3rd quarter 2005 Report) |
| 54 | Rubicon Minerals Corporation/ Goldcorp Inc (Red Lake North Property) | Black Bear Lake Area (Au) | DDH(3)=738.5m, Samp, Assays (2.30320) |
| 55 | Rupert Resources Ltd (Gold Centre Property) | Balmer Township (Au) | DDH(1 hole+2 wedge-offs)=3986 m, plans further mother/daughter holes; budget of $3.8 million (news release, Dec. 21, 2005) |
| 56 | Rupert Resources Ltd. (Gullrock Property) | Willans Township (Au) | DDH(2)=342.59 m (2.30213) |
| 57 | Placer Dome (CLA) Ltd. (50%)/ Wolfden Resources Inc. (50%) (East Bay JV Project) | Bateman Township (Au) | DDH(28)=12 500m, Assays Mineral resource estimate for the GAZ target area of 1.4 million tons of 8.0 g/t Au in five lenses (news release, Feb. 23, 2005) |
| 58 | Sabina Silver Corporation (formerly Sabina Resources Ltd.) (60%)/ Wolfden Resources Inc. (40%) (Follansbee Property) | Dome Township (Au) | DDH(20)=8255 m, Str. Sabina sells its 60% interest to Wolfden Resources (Sabina, news release, Sept. 26, 2005) |
| 59 | Sabina Silver Corporation (formerly Sabina Resources Ltd.) (Golden Sidewalk) | Skinner Township (Au) | Acquires 100% interest in property (news release, Jan. 24, 2005) DDH(22)=4140 m Staking, IP |
| 60 | Schellenberg, G. D. | South of Otter Lake (Au, BM) | L.c. GM (2.30053) |
| 61 | Skyharbour Resources Ltd. | Dent and McDonough townships, Uchi and Blackbear Lake areas (Au) | Skyharbour relinquishes options on Dent, Tomato, Uchi Lake and Black Bear II claims (4th quarter 2004-2005 report) and Slate Bay property (2nd quarter 2005-2006 report) |
| 62 | Southern Star Resources Inc. (50%)/ Exall Resources Limited (50%) (Gold Eagle Mine Property) | Dome Township (Au) | DDH (27 including wedge-offs)= ~8000 m, Assays |
| 63 | Superior Diamonds Inc. | Aljo, Bonnell, Ellard, Dadson, Thorne and Loney lakes areas; Ellard River Area; North of Hendron Lake Area; BMA 546912 | Staking |
| 64 | Trade Winds Ventures Inc./ Pelangio Mines Inc. (Birch Lake Highgrade Island Project) | Keigat Lake and Casummit Lake areas (Au) | DDH(5)=1874.78 m (2.30191) intersected up to 2.97 g/t Au over 2.0 m |
| 65 | Trade Winds Ventures Inc./ Fronteer Development Group Inc. (Sandy Point Property) | Keigat Lake and Casummit Lake areas (Au) | AEM, AM, RES (2.30199) |
| 66 | Trade Winds Ventures Inc./ Cangold Limited (Birch Lake Property) | Keigat Lake and Casummit Lake areas (Au) | AEM, AM, RES (2.30199) |
| 67 | Tri Origin Exploration Ltd. (Red Lake Extension Property) | South of Otter Lake Area (Au, Ag, Cu, Zn) | DDH(3)=503 m Staking, Samp |
| 68 | Tribute Minerals Inc. (Garnet (Arrow zone) Lake Property) | Belanger Township (Zn, Cu, Au, Ag) | DDH(8)=3544 m; DGP; GL-2005-10 intersected 4.00% Zn, 0.44% Cu, 0.13 g/t Au and 12.9 g/t Au over 1.4 m (news release, March 8, 2005). Re-analysis of GL-2004-03 returned 67.1 g/t indium and 43.4 g/t gallium over 7.5 m (news release, Nov. 7, 2005) |
| 69 | Tribute Minerals Inc. (Fredart Lake, Fredart West & Gerry Lake Properties) | Fredart Lake and Gerry Lake areas (Zn, Cu, Au, Ag) | Staking |
| 70 | Williamson, J.W. | Byshe and Heyson townships (Au) | Pr, Samp (2.30348) |

| No. | Company/Individual (Occurrence Name) or Property | Township/Area (Commodity) | Exploration Activity |
|---|---|---|---|
| 71 | Wolfden Resources Inc./ Placer Dome (CLA) Ltd. (Marathon–McNeely Project) | Dome Township (Au) | DDH-UG(1)=400 m on Wolfden property, from 39Level Campbell Mine |
| 72 | Wolfden Resources Inc. (Bonanza Property) | Dome Township (Au) | DDH(96)=38 576 m, Assays Goldcorp acquires 9.8% of Wolfden (Wolfden, news release, Dec. 21, 2005) |
| 73 | Wolfden Resources Inc. (50%)/ Sabina Silver Corporation (formerly Sabina Resources Ltd.) (50%) (Newman–Madsen Property (Nova Co., Newman–Heyson and My–Ritt)) | Heyson and Baird townships (Au) | DDH(15)=4430 m |

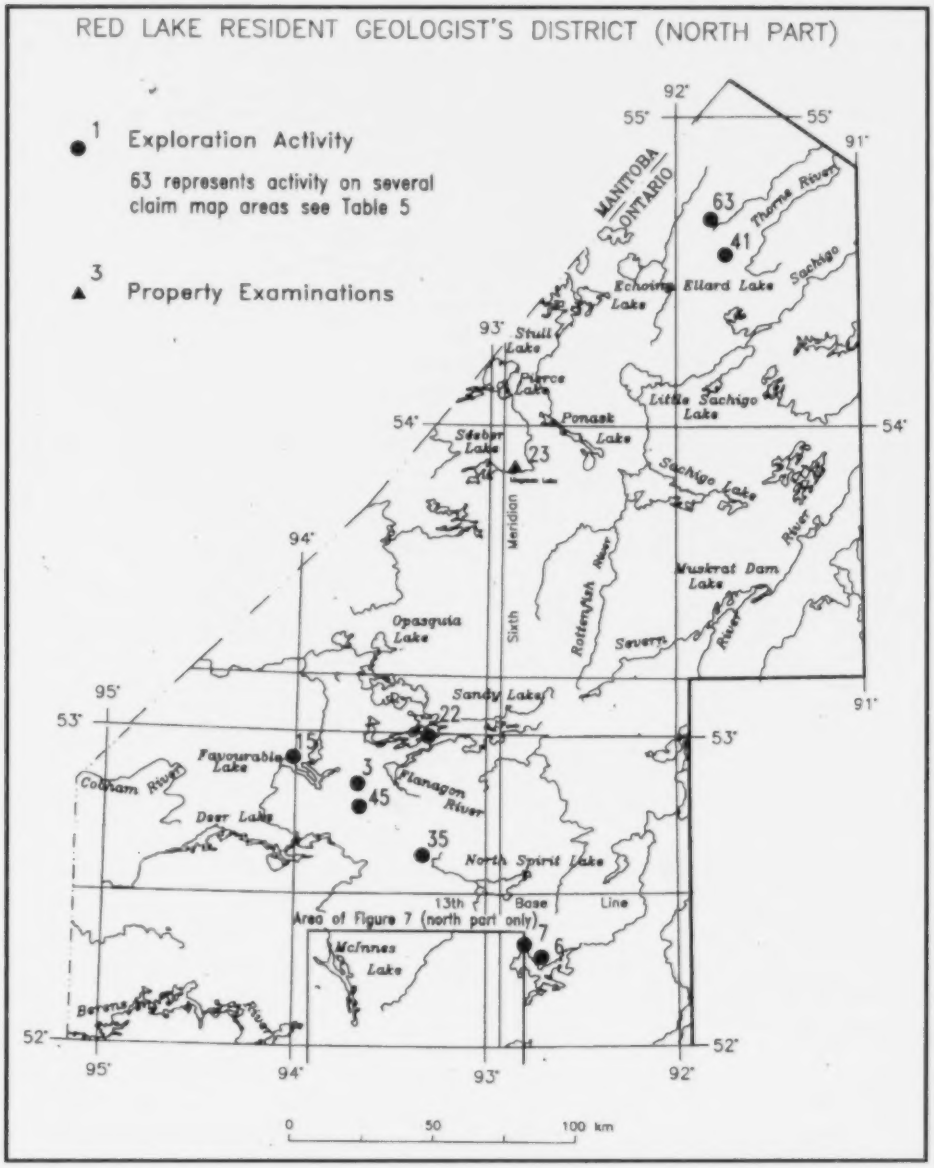


**Figure 3.** Red Lake District (north part): exploration activity and property examination (*see* Table 5).

## Red Lake Greenstone Belt

Exploration in the Red Lake greenstone belt has continued at a steady pace since 2001. Table 5 lists the companies and individuals who reported exploration activity on their property during 2005; several are described in more detail in the following pages. The research activities by the Geological Survey of Canada, the Ontario Geological Survey and other recent work on gold mineralization, cited by Lichtblau et al. (2003, 2004, 2005), form part of the support for continued high level of exploration activity. New discoveries on old properties such as the Wolfden Resources Inc. Bonanza property and the Exall Resources Inc./Southern Star Resources Inc. Gold Eagle Mine property in the heart of the Red Lake camp have proven that a new look at an old property can give good results.

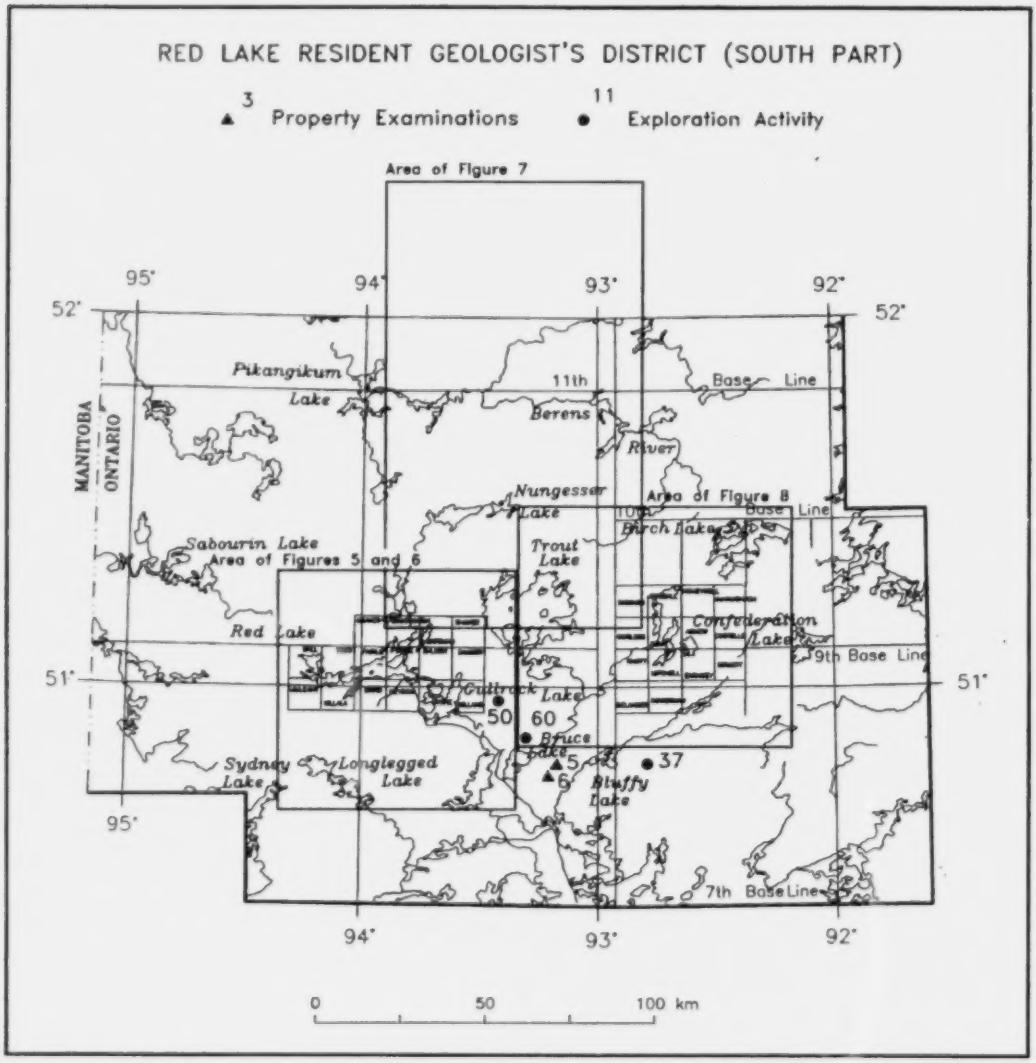


**Figure 4.** Red Lake District (south part): exploration activity and property examinations (*see* Table 5).

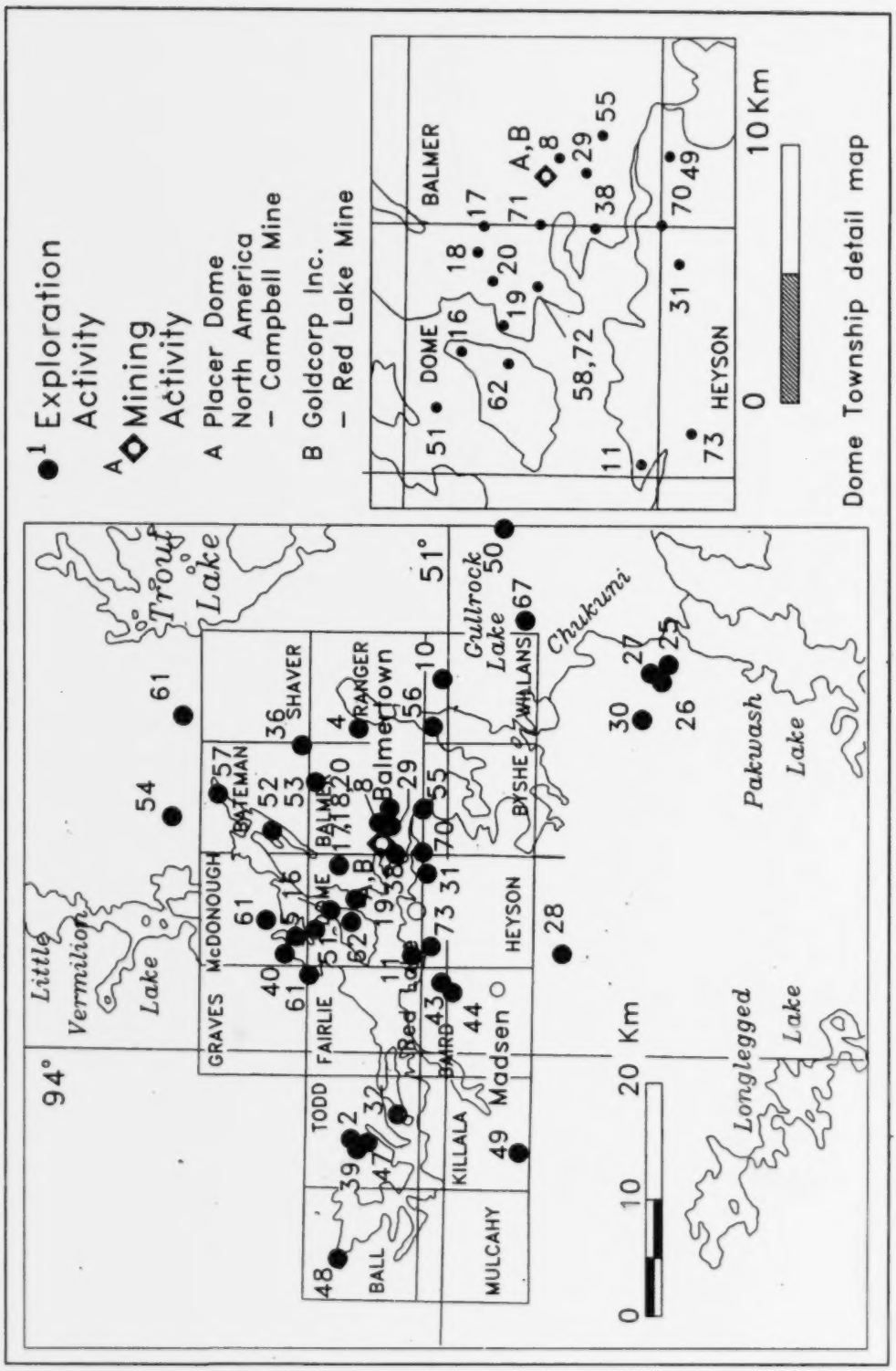


**Figure 5.** Red Lake greenstone belt: exploration activity (*see* Table 5) and mining activity.

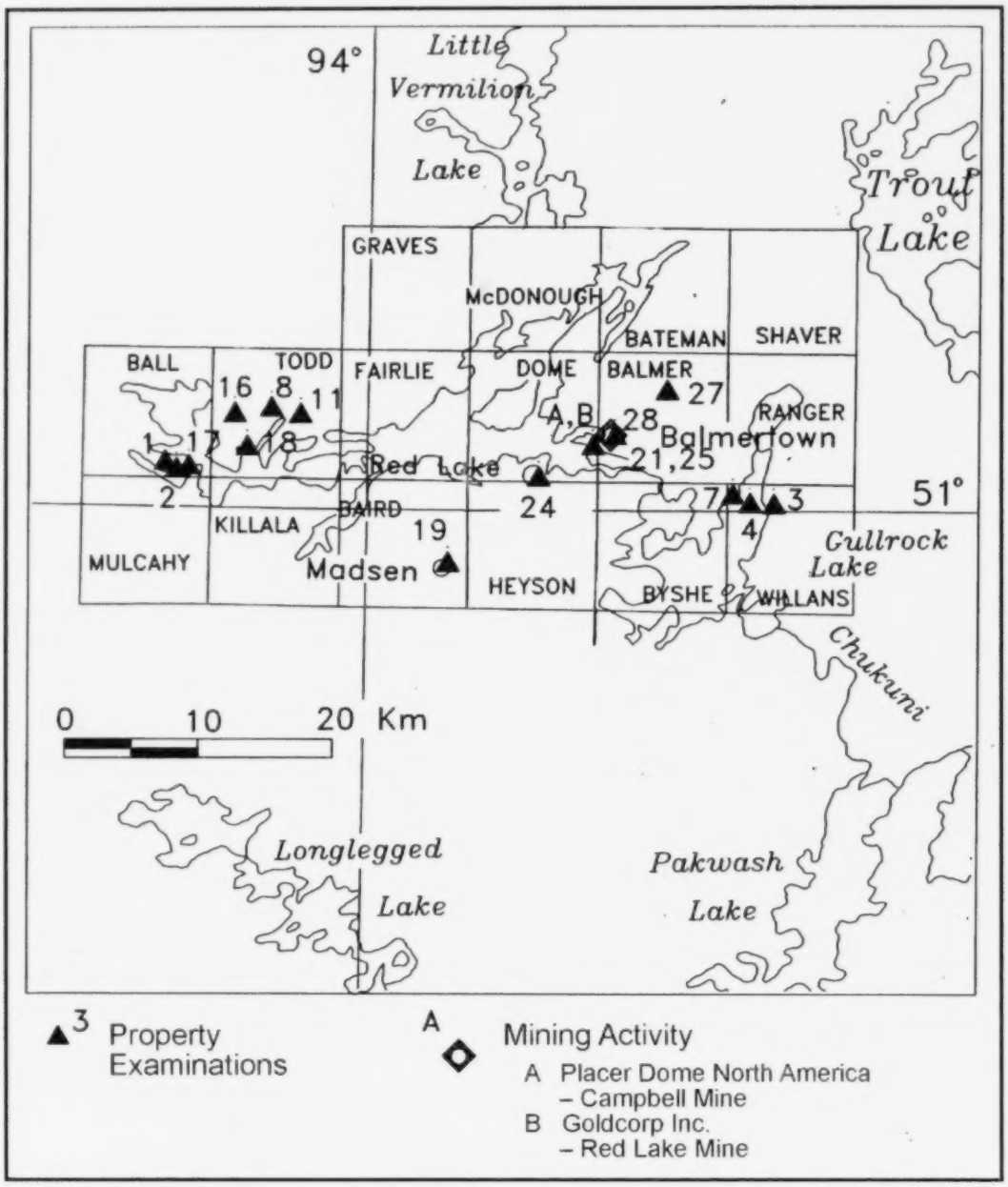


**Figure 6.** Red Lake greenstone belt: property examinations (*see* Table 7) and mining activity.

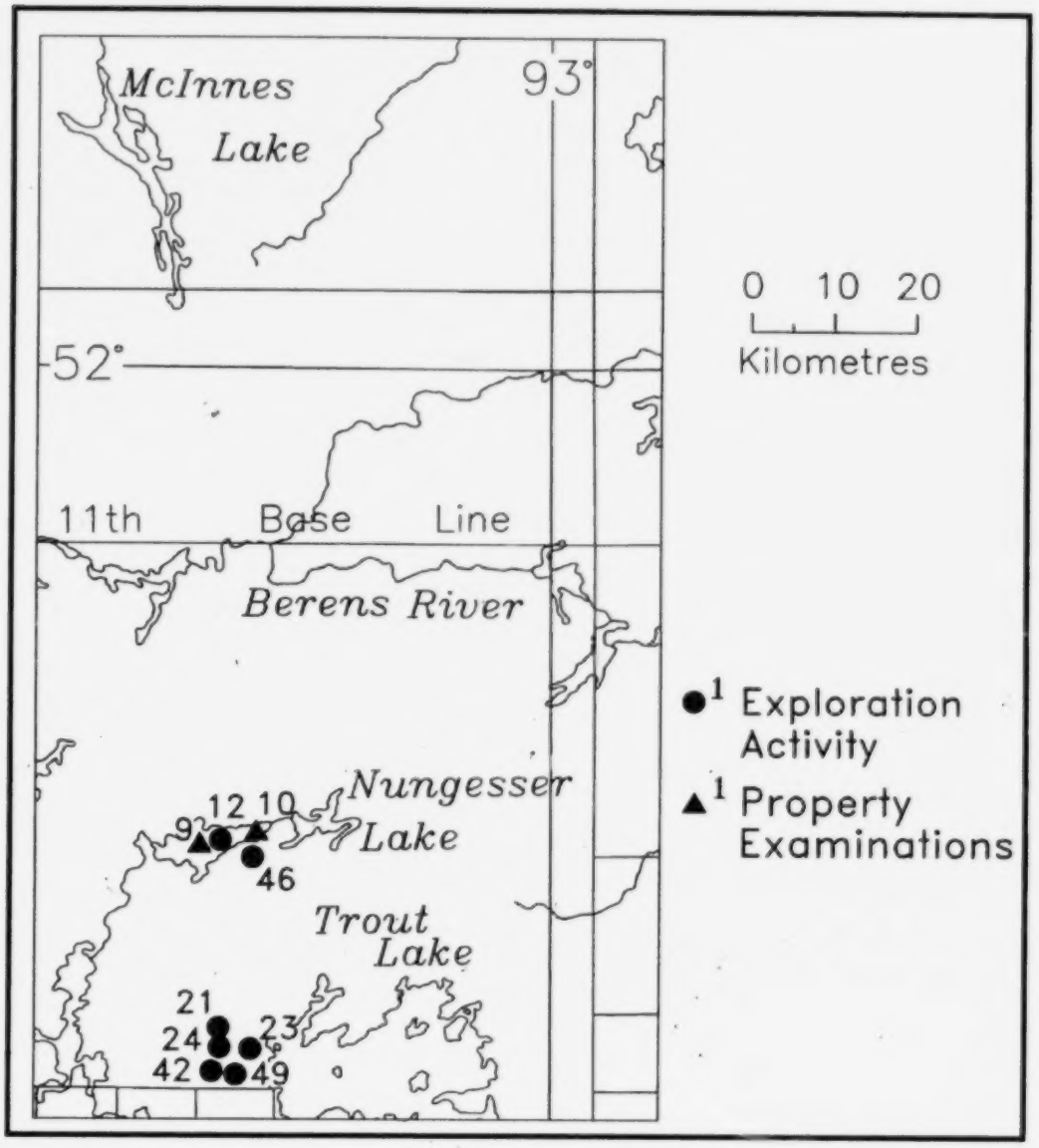


**Figure 7.** Northern extension of the Red Lake greenstone belt: exploration activity and property examinations (*see* Table 5).

## CANSTAR RESOURCES INC.

Canstar Resources Inc. was formed by the merger of Candor Ventures Corp. and Nustar Resources Inc. (Canstar Resources Inc., news release, April 7, 2005). The **Slate Bay property** was optioned from Luxor Enterprises Inc. by Candor Ventures in 2002 and has been explored by Candor and now Canstar. Canstar has met the expenditure targets of the option agreement and now holds a 75% interest in the property with Luxor holding 25%. Canstar now has vested 75% interest and is negotiating a joint venture with Luxor (news release, December 12, 2005). The target is interpreted to be a copper-gold-silver mineralized skarn system (news release, November 8, 2005). The discovery zone is a roughly tabular package of steeply dipping skarn and mineralized breccia with true widths of 50 to 100 m. Exploration in 2005 comprised a four-hole diamond-drill program of 617.7 m. Significant drill intercepts are

| Hole | From (m) | To (m) | Length (m) | Cu (%) | Au g/t | Ag g/t |
|---|---|---|---|---|---|---|
| SB-05-5 | | | 29.33 | 0.32 | 0.15 | 11.42 |
| SB-05-6 | 49.36 | 85.61 | 36.25 | 0.29 | 0.28 | 10.47 |
| *includes* | 49.36 | 61.10 | 11.74 | 0.66 | 0.67 | 18.97 |
| *includes* | 56.96 | 57.30 | 0.34 | 5.81 | 7.2 | 183 |
| SB-05-7 | 28.04 | 50.48 | 22.44 | 0.19 | 0.14 | 9.14 |

Further diamond drilling is planned for 2006.

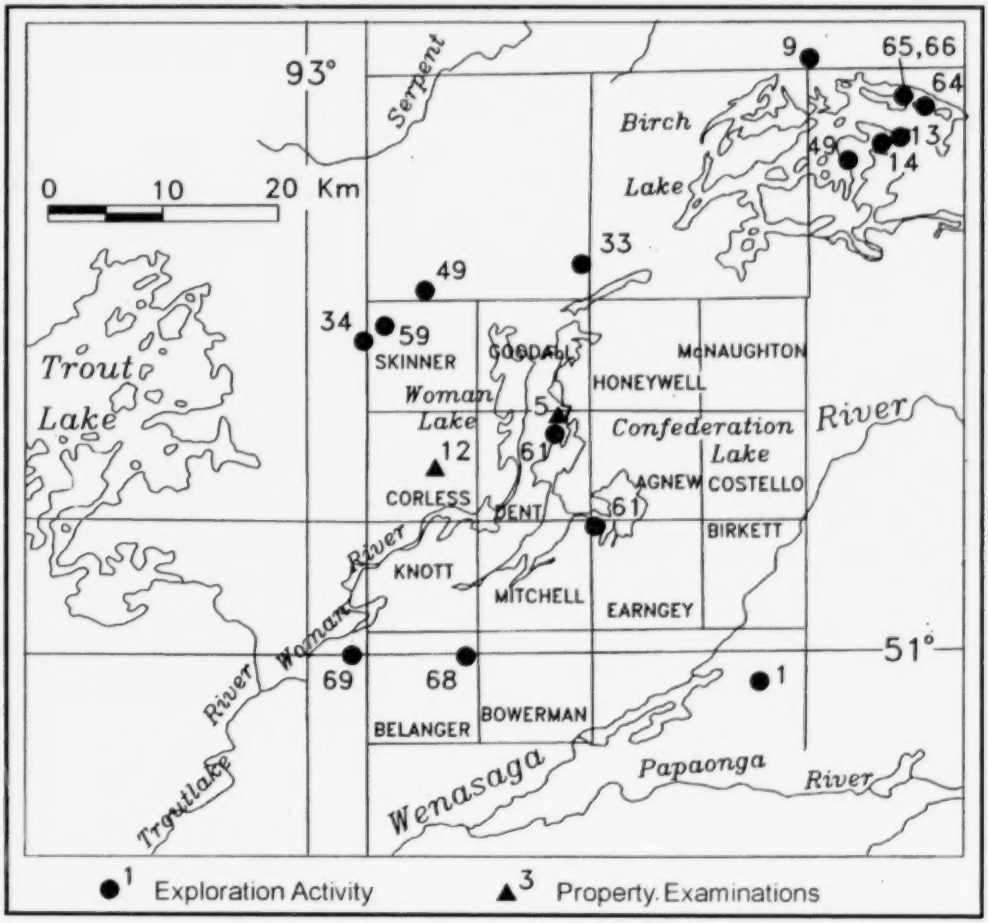


**Figure 8.** Birch–Uchi greenstone belt: exploration activity and property examinations (*see* Table 5).

## CYPRESS DEVELOPMENT CORP.

Cypress Development Corporation carried out an extensive exploration program on its McKenzie Island property (Cypress Development Corp. (80%)–Skyharbour Resources (20%)). The property covers much of the western half of McKenzie Island and extends as far south as the north side of St. Paul Bay. The central part is underlain by water covered granitoid rocks of the Dome stock, whereas the north part on McKenzie Island is underlain by intermediate metavolcanic rocks and metasediments of the McNeely assemblage. Balmer assemblage mafic metavolcanic rocks and ultramafic intrusive rocks underlie the southern extremity on St. Paul Bay. Exploration work in 2005 included diamond drilling, line cutting, IP and ground magnetometer surveys, geochemical survey and MMI. The diamond drilling was concentrated in the southern part of the property along the north side of St. Paul Bay of Red Lake. A total of 14 holes were drilled in two phases for 3059.9 m; significant drill intercepts are (Busch 2005)

| Hole | From (m) | To (m) | Length (m) | Assay (g/t Au) |
|---|---|---|---|---|
| M05-3 | 53.1 | 53.4 | 0.3 | 1.52 |
| M05-3 | 54 | 54.25 | 0.25 | 1.32 |
| M05-3 | 54.25 | 54.7 | 0.45 | 4.04 |
| M05-3 | 69.1 | 69.3 | 0.2 | 23.87 vg |
| M05-3 | 69.8 | 70.5 | 0.7 | 1.93 |
| M05-9 | 110.3 | 111.1 | 0.8 | 3.2 |
| M05-9 | 111.1 | 112.2 | 1.1 | 0.78 |
| M05-9 | 154.8 | 155.8 | 1.0 | 1.32 |
| M05-14 | 21.2 | 21.5 | 0.3 | 13.08 vg |
| M05-14 | 21.5 | 22 | 0.5 | 17.02 vg |
| M05-14 | 93.6 | 94.1 | 0.5 | 1.71 |
| M05-14 | 94.1 | 94.6 | 0.5 | 0.91 |

This portion of the McKenzie property lies along the southern contact between the Dome stock and Balmer assemblage rocks. All the holes except M05-1 intersected granitoid rocks of the Dome stock that show varying degrees of sericite and silica alteration. Silicification occurs as narrow veinlets and pervasive silica. Higher gold values are associated with more intense silicification. Pyrite and base metal sulphides are often associated with elevated gold values, but this relationship is not always present. The 2005 diamond drilling indicated that there is the potential for parts of the Dome stock to host economic gold. Other exploration work comprised an IP survey on the McKenzie Island portion of the property and lithogeochemical sampling over the whole property (D. Busch, Cypress Development Corp., personal communication, January 2006).

## GOLDCORP INC.

Goldcorp Inc. has a large land position in the Red Lake area comprising wholly owned properties of patented, leased and unpatented claims and joint ventures with other companies. In 2005, they carried out exploration activities on 6 properties in the Red Lake greenstone belt, 5 in Dome and Balmer townships near the past-producing Cochenour–Willans Mine and the Sidace property in the north extension of the Red Lake greenstone belt. Work on the **BK property** consisted of 11 diamond drill holes for 3279 m, following stratigraphy north of Balmer Lake in Dome and Balmer townships. The **Dunlop Property** in Dome Township was investigated by 6 diamond drill holes for 1995 m. The **South Serpentinite project** targets the East Bay Serpentinite in the area north and east of the Cochenour–Willans Mine between the Marcus and Abino properties. Exploration in 2005 consisted of an MMI survey to cover areas not sampled in previous surveys. Exploration and mine rehabilitation work is ongoing on the **Cochenour-Willans Mine property**, where a mother hole and 3 wedge holes investigating deep structures were drilled for 1226 m. Exploration on the adjacent **McKenzie Mine property** consisted of 4 diamond-drill holes for a total of 1494 m.

The **Sidace Lake property** in the Coli Lake area is optioned from Planet Exploration, and Goldcorp Inc. is now the operator (*see* "Goldcorp Inc./Planet Exploration Inc. – Sidace Lake Joint Venture").

## GOLDCORP INC./PLANET EXPLORATION INC.–SIDACE LAKE JOINT VENTURE

Drilling continued throughout much of the year on this 12 900 ha property situated in the Coli Lake area, approximately 28 km north-northeast of the Campbell–Red Lake gold deposit. Goldcorp Inc. elected to exercise its option to acquire a 50% interest in the Sidace Lake project. Exploration expenditures by Goldcorp in excess of $1 500 000 were required to complete the option and a cash payment of $450 000 was made with the notice of exercise (Goldcorp Inc., news release, March 22, 2005).

A total of 43 holes, including one wedge-off, was drilled, totalling 12 890 m (B. Patterson, Goldcorp Inc., personal communication, 2006). Targets included 1) the Main Discovery zone, where several holes cut the zone perpendicular to the central lobe of the fold, confirming that the thick gold-rich mineralized zone continues at the same grades and thicknesses as previously determined (*see* table below); 2) holes drilled in the South or Skarn zone, situated more than 1500 m southwest of the Main Discovery zone, which confirm that this mineralization follows a south-easterly trending synformal structure; 3) 2 holes drilled to "scissor" the Upper Duck zone and a further 2 holes drilled to investigate strike demonstrated that this is a distinct unit 300 m north of the Skarn zone and over 1100 m southwest of the Main Discovery zone; 4) the Far West zone, which is similar in lithology and stratigraphic position to the Main Discovery zone, but is situated about 2500 m to the west; and 5) the Anderson zone, interpreted to be the extension of the East Bay serpentinite, which hosts the GAZ resource of 1.4 million tons @ 8.0 g/t Au on the Wolfden Resources/Placer Dome East Bay Joint Venture property, 15 km to the southwest (*see* Wolfden Resources Inc./Placer Dome (CLA) Ltd.).

| Hole # | From (m) | To (m) | Interval (m) | Grade Au (g/t) | Zone |
|---|---|---|---|---|---|
| RL-04-62B | 703.00 | 704.50 | 1.50 | 15.43 | Main Discovery |
| RL-05-63 | 301.20 | 326.00 | 24.80 | 2.69 | Main Discovery |
| *including* | 306.00 | 322.00 | 16.00 | 3.60 | Main Discovery |
| RL-05-69 | 126.00 | 185.00 | 59.00 | 1.55 | Main Discovery |
| *including* | 163.00 | 177.75 | 14.75 | 3.53 | Main Discovery |
| *and* | 184.00 | 185.00 | 1.00 | 24.78 | Main Discovery |
| RL-05-69 | 136.00 | 139.00 | 3.00 | 3.07 | Skarn |
| RL-05-66 | 102.00 | 110.90 | 8.90 | 4.03 | Upper Duck |
| | 121.00 | 128.80 | 7.80 | 9.71 | Upper Duck |
| RL-05-67 | 100.50 | 104.50 | 4.00 | 15.18 | Upper Duck |
| RL-05-68 | 30.00 | 45.00 | 15.00 | 4.08 | Upper Duck |
| *including* | 36.00 | 37.00 | 1.00 | 59.15 | Upper Duck |
| RL-05-86 | 325.00 | 326.00 | 1.00 | 13.03 | Skarn |
| RL-05-89 | 132.00 | 135.00 | 3.00 | 4.92 | Skarn |
| | 215.00 | 226.00 | 11.00 | 1.28 | Anderson |
| *including* | 222.00 | 223.00 | 1.00 | 7.38 | Anderson |

A winter-2006 program with 2 drill rigs will focus on 1) the definition of the shape, dimensions and grade at depth of the Main Discovery zone; 2) the eastern extension of the Upper Duck zone; 3) follow-up work to link the Skarn zone with the North Anderson zone; and 4) continuing work on extending mineralization in the Serpentinite (news release, January 19, 2006).

## KING'S BAY GOLD CORPORATION

King's Bay Gold Corporation currently has 3 properties in the Red Lake greenstone belt and one in the Birch–Uchi greenstone belt. The **Headway Property** in Balmer and Dome townships comprises 6 patented claims located approximately 600 m southwest of Goldcorp Inc.'s new No.3 shaft. Palomino Mining and Exploration holds a 10% interest, while Richview Resources Inc. has an option to acquire a 45% interest in the property. Exploration in 2005 included line cutting, stripping, sampling and 12 diamond-drill holes for 4296 m. The **Slate Bay project** in McDonough Township is 51% held by King's Bay and 49% by Rubicon Minerals Corporation. Exploration in 2005 consisted of 5 diamond-drill holes for a total of 1500 m. King's Bay signed an option agreement with Goldcorp Inc. to obtain 50% interest in the **Rowan Lake gold project**, including the Lake Rowan shaft, for $3.5 million

expenditures before December 31, 2008 ($1.25 million by 2006, $1.25 million by 2007, $1 million by 2008) (King's Bay, news release, December 12, 2005). Work has not yet started on this property (J. Archibald, King's Bay Gold Corp., personal communication, 2006).

## METALCORP LTD.

The company's **Blackbear Lake Property** comprises 18 claims, totalling 152 units, in Shaver Township and the Blackbear Lake Area. The property is adjacent to the south boundary of Goldcorp Inc./Planet Exploration Inc.'s Sidace Lake property. Goldcorp Inc. is earning an initial 50% interest in the property by spending $1.8 million and making cash payments totalling $120 000 over a four-year period.

A nine-hole, 2717 m program was carried out late in 2005 to follow up on geochemical anomalies detected by the 2004 MMI program; assay results are pending. Two of the MMI anomalies are associated with gold mineralization discovered in the 2004 diamond-drill program. The remaining MMI anomalies are associated with a magnetic anomaly believed to be associated with a felsic intrusive body. An additional a 36-line, 1533-sample MMI survey was completed during June and July 2006 (MetalCORP Ltd., news release, October 27, 2005; A. MacTavish, MetalCORP Ltd., personal communication, 2006).

## PLACER DOME (CLA) LTD.

The immediate goal of surface exploration in the Red Lake greenstone belt continued to be to define near-term feed for the Campbell mill. Up to 500 tonnes of additional gold ore per day can be accommodated. Several projects were active in the central Red Lake greenstone belt for which $2.7 million had been budgeted (P. Busse, Placer Dome (CLA) Ltd., personal communication, 2005). Work on the **Baird Project**, optioned from Skyharbour Resources and Bayfield Ventures, and the **Marathon–McNeely** option from Wolfden Resources, are listed in Table 5.

### Placer Dome (CLA) Ltd. (50%)/Wolfden Resources (50%)–East Bay Joint Venture

The 65-claim unit joint venture property is located in the East Bay area of Red Lake, in Bateman Township, approximately 15 km north of Placer Dome's Campbell Mine. Previous drilling focussed on the Green Altered zone ("GAZ") and immediately adjacent structures. A mineral resource for the GAZ target area, based on the 2004 drill program, was estimated at 1.4 million tons of 8.0 g/t Au in 5 lenses (Placer Dome, news release, February 23, 2005). The estimate was made using 3 g/t Au as the cutoff grade with 2.0 m as the minimum width. Metallurgical tests on East Bay drill core indicate that, after cyanide leaching, a gold recovery of 97% or greater can be expected. The resource breaks down as follows.

| Lens | Tonnes | Au (g/t) | Ounces Contained Au |
|---|---|---|---|
| G0 | 267 620 | 8.12 | 63 381 |
| G1 | 609 510 | 6.67 | 118 575 |
| G1a | 35 810 | 9.83 | 10 267 |
| G2 | 179 320 | 7.74 | 40 481 |
| G2a | 306 845 | 10.47 | 93 703 |
| **Total** | **1 399 105** | **8.00** | **326 407** |

Some significant assays from the various lenses include

| Hole # | From (m) | To (m) | Interval (m) | Au (g/t) |
|---|---|---|---|---|
| EB-05-140 | 87.70 | 90.00 | 2.30 | 17.67 |
| EB-05-144 | 130.50 | 136.00 | 5.50 | 5.43 |
| EB-05-146 | 90.00 | 103.00 | 13.00 | 7.61 |
| *including* | 90.00 | 92.00 | 2.00 | 32.93 |
| | 119.20 | 137.00 | 17.80 | 5.15 |
| *including* | 129.00 | 134.50 | 5.50 | 11.46 |

| Hole # | From (m) | To (m) | Interval (m) | Au (g/t) |
|---|---|---|---|---|
| EB-05-147 | 117.00 | 120.50 | 3.50 | 15.03 |
| EB-05-148 | 84.90 | 87.00 | 2.10 | 12.20 |
| EB-05-152 | 136.40 | 137.50 | 1.10 | 13.65 |
| EB-05-163 | 334.00 | 335.00 | 1.00 | 8.46 |
| EB-05-164 | 61.00 | 63.00 | 2.00 | 6.12 |
| EB-05-165 | 162.00 | 163.00 | 1.00 | 6.89 |

A 28-hole, 12 500 m drill program was completed in the 2nd quarter of 2005. Drilled from the ice of East Bay, holes were spaced on 25-metre centres along strike and, at most, 50 m down-dip, and were designed to provide infill information to upgrade the resource estimate based on the previous years' drilling. The recent drilling intersected parallel horizons that have returned high assays in what is referred to as the new "Footwall zone". These include hole EB-05-152, which assayed 28.8 g/t Au over 2.00 m.

### Redaurum

Sabina Silver has an 80% interest in the property; 20% is retained by Claude Resources Inc. Placer Dome (CLA) Ltd., the operator, is earning an initial 50% interest. By the 2nd quarter, it had fulfilled its second-year obligation; by the end of 2007, Placer Dome needs to spend a total of $2 million. Diamond-drill programs were undertaken in the 1st and 4th quarters of the year; drilling continued into 2006.

### Madsen Option

Placer Dome completed its spending commitment of $8.2 million under the option agreement on Claude Resources' Red Lake project (Claude Resources, news release, March 30, 2005). Placer Dome (CLA) Ltd. has the right to earn a 55% interest in the 10 500 acre property. The past-producing Madsen Mine (2 452 388 ounces gold produced in 2 periods, 1938–1976 and 1997–1999) has an indicated mineral resource of 790 000 tonnes grading 12.3 g/t Au and an inferred mineral resource of 740 000 tonnes grading 8.6 g/t Au.

## REDSTAR GOLD CORP. – NEWMAN–TODD PROPERTY

Under an agreement with AngloGold Ashanti North America Inc., Redstar Gold acquired the right to earn a 100% interest in 26 patented and 13 staked mineral claims in the west Red Lake area, including the Newman–Todd property (Redstar Gold, news release, February 10, 2005). Gold is believed to occur in 3 different environments on the property associated with 1) quartz veins in a breccia zone; 2) iron formation; and 3) a mafic contact.

Historical drilling, recent lithogeochemistry, airborne geophysics and Titan magnetotelluric resistivity surveys indicate the auriferous breccia zone extends for over 1.5 km along strike. All 4 holes of a 3rd quarter 2005 drill program (totalling 733 m) succeeded in intersecting multiple zones of silicified breccia containing up to 20% sulphides, widespread iron-carbonate alteration and anomalous gold mineralization. Hole NT-031 intersected 24.89 g/t Au over 3.0 m, including 69.02 g/t Au over 1.0 m (news release, October 26, 2005). A follow-up Phase II drill program is planned for early 2006.

## RUBICON MINERALS CORPORATION

Rubicon Minerals controls the largest land position (approximately 260 $km^2$) in the Red Lake greenstone belt. In 2005, three of its properties saw major exploration efforts: drill programs totalling 10 holes and 2697 m were completed on the **Red Lake North** and **Adams Lake properties**, both optioned to Goldcorp Inc. (*see* Tables 4 and 5); and the company's 100% owned **McFinley Gold project** was the object of 61 diamond-drill holes, totalling 14 053 m.

## McFinley Gold Project–Phoenix Zone

The Phoenix zone was discovered in 2004 near the northern end of McFinley Island, approximately 4 km south of Placer Dome–Wolfden Resources' GAZ mineralization (*see* "Placer Dome (CLA) Ltd. (50%)/Wolfden Resources (50%)–East Bay Joint Venture"). During the 2004 drill program, Rubicon outlined the Phoenix zone with 10 085 m of drilling in 72 holes. The 2005 drill campaign of 41 holes of diamond drilling, totalling 7491 m, succeeded in extending the dimensions to 500 m along strike and to a vertical depth of 200 m (Prefontaine 2005). The main Phoenix zone mineralization occurs in the immediate hanging wall of the East Bay serpentinite, a belt-scale lithologic unit that has been traced from the Sidace Lake property of Goldcorp Inc./Planet Exploration Inc. (*see* "Goldcorp Inc./Planet Exploration–Sidace Lake Joint Venture") to the Cochenour Mine area, a distance of approximately 30 km. Mineralization occurs within biotite-altered basalt and consists of arsenopyrite and pyrrhotite in silicified replacement zones in late quartz-carbonate-ankerite-chlorite-amphibole breccia veins. Selected intersections include

| Hole | From (m) | To (m) | Length (m) | Au (g/t) |
|---|---|---|---|---|
| PZ 58 | 73.50 | 73.80 | 0.30 | 136.50 |
| PZ 59 | 44.10 | 52.60 | 8.50 | 6.02 |
| *includes* | 47.60 | 49.75 | 2.15 | 17.24 |
| PZ 77 | 28.95 | 31.35 | 2.40 | 8.89 |
| PZ 80 | 54.20 | 55.35 | 1.15 | 12.55 |

A newly discovered carbonate-ankerite replacement zone ("CARZ") is located 75 m structurally above the main Phoenix zone. It is a 20 to 30 m thick zone of carbonate-ankerite replacement, with colloform-banded "snowbank" veins up to 5 m thick. Mineralization consists of arsenopyrite-bearing silicification of vein material. Snowbank veins are a not uncommon feature within ore zones of the 2 producing mines. Significant intersections from the CARZ include

| Hole | From (m) | To (m) | Length (m) | Au (g/t) |
|---|---|---|---|---|
| PZ 82 | 8.65 | 17.60 | 8.95 | 5.16 |
| *includes* | 8.65 | 9.10 | 0.45 | 29.50 |
| PZ 83 | 7.90 | 19.00 | 11.10 | 4.51 |
| *includes* | 10.20 | 17.90 | 7.70 | 6.00 |
| *and* | 15.80 | 17.90 | 2.10 | 8.72 |
| PZ 84 | 10.85 | 17.35 | 6.50 | 5.22 |
| PZ 92 | 21.65 | 35.65 | 14.00 | 1.93 |

## SABINA SILVER CORPORATION

During the year, Sabina Resources changed its name to Sabina Silver Corporation and also its focus (Sabina Silver, news release, September 26, 2005). It sold its 60% interest in the Follansbee property to 40%-partner Wolfden Resources, for $2 000 000 cash and 4 000 000 common shares of Wolfden. Sabina retained its interests in other properties in the Red Lake greenstone belt (80% in the Redaurum property and 50% in the Newman–Madsen property with Wolfden Resources) and the Birch–Uchi greenstone belt (100% interest in the Golden Sidewalk and Skinner properties).

### Follansbee

Sabina earned a 60% interest in the Follansbee property from Wolfden Resources, having spent an aggregate of $1.3 million. The 6 patented claims comprising this Dome Township property are contiguous with Wolfden Resources' Bonanza property (*see* "Wolfden Resources"); the mineralized zones are known to cross the boundary between them.

Sabina completed drilling of 21 holes, totalling approximately 8500 m, with an intense, two-rig, drill program that started early in the year. A major stripping program was completed over the up-dip projection of one of the known zones. Surface channel samples assayed up to 3.01 g/t Au over 12.95 m, including 4.45 g/t Au over 6.6 m. This mineralization is approximately 50 m east and up-dip of a drill intersection in Hole SWF-05-20, which returned 5.05 g/t Au over 34.95 m.

On September 26, 2005, Sabina Resources announced its intention to change its focus and name to Sabina Silver Corporation, and confirmed the sale of its 60% interest in the property to partner Wolfden Resources for $2 000 000 cash and 4 000 000 shares of Wolfden.

## SOUTHERN STAR RESOURCES INC./EXALL RESOURCES LIMITED

The 50:50 joint venture partners continued an aggressive $3.8 million, approximately 8000 m drill campaign on 2 gold targets on their Gold Eagle Mine project, comprising 35 patented claims in Dome Township. Additional drilling of the granodiorite-hosted Western Discovery zone continued to expand the estimated resource of 309 000 t grading 16.67 g/t Au, which had been previously announced (Southern Star Resources, news release, December 7, 2004). A major exploration campaign, including wedging, was undertaken to follow-up on high-grade mineralization in the volcanic-hosted Bruce Channel zone.

Drilling on the Western Discovery has expanded the mineralized zone to the east of the Gold Eagle shaft area, indicating a minimum easterly strike extent of approximately 1100 m (news release, May 11, 2005).

| Hole | From (m) | To (m) | Length (m) | Au (g/t) |
|---|---|---|---|---|
| GS#1 | 171.25 | 172.15 | 0.90 | 32.61 |
| GS#3 | 312.05 | 313.25 | 1.20 | 6.71 |
| GS#8 | 188.66 | 188.90 | 0.24 | 71.00 |
| GS#11 | 345.53 | 346.65 | 1.12 | 4.96 |
| GS#21 | 303.70 | 306.35 | 2.65 | 7.63 |
| GS#25 | 282.17 | 282.48 | 0.31 | 295.00 |

Mineralization under the water of Bruce Channel of Red Lake was tested by both ice- and land-based diamond-drill holes. Hole BC11, and a series of wedge-off holes (BC11-1 and BC11-2), tested the westward and down-plunge continuation of high-grade intersections initially reported in BC10. Significant results include

| Hole # | From (m) | To (m) | Interval (m) | Au (g/t) |
|---|---|---|---|---|
| BC-10 | 1205.40 | 1207.93 | 2.53 | 18.36 |
| | 1240.80 | 1242.26 | 1.46 | 12.64 |
| BC11-1 | 1276.00 | 1283.00 | 7.00 | 25.50 |
| *including* | | | 0.33 | 502.46 |
| | 1516.93 | 1520.60 | 3.67 | 10.00 |
| | 1538.32 | 1542.58 | 4.26 | 9.87 |
| BC-11-2 | 1281.0 | 1293.76 | 12.76 | 7.26 |
| *including* | | | 7.84 | 9.86 |
| | 1308.95 | 1310.70 | 1.75 | 24.48 |
| | 1437.75 | 1439.64 | 1.89 | 25.52 |

The current drill program has expanded the mineralized area to 250 m in an east-west direction, 300 m in a north-south direction and 500 m vertically. Drilling with up to 2 machines will continue through the winter of 2005–2006.

## WOLFDEN RESOURCES INC.

The company controls a number of properties in the Red Lake District including Newman Madsen, with 50% partner Sabina Silver Corporation; Marathon–McNeely, under option to Placer Dome (CLA) Ltd.; and 49% of the Argosy Gold property, with Cangold Ltd. Exploration work performed on these properties is highlighted in Table 5. Extensive work was performed on the company's other projects in the district and is detailed below.

### Bonanza (Follansbee) Property

An intense drill program continued throughout the year. A total of 38 576 m in 96 holes was drilled on Wolfden's wholly owned Bonanza property (comprising 12 patented claims) in Dome Township, 3.5 km west of the Campbell–Red Lake gold deposit. On September 26, 2005, Wolfden acquired Sabina Resources' 60% interest in the contiguous Follansbee property, giving Wolfden 100% ownership of this property comprising 6 patented claims. Three known gold-mineralized zones, the Rahill, Bonanza and Follansbee zones, cross the boundary between the properties; Sabina had previously completed 21 holes, totalling approximately 8500 m, on the Follansbee property.

All 3 zones display vertical (380 m) and horizontal (500 m along strike) continuity, and contain significant widths of near-surface "bulk tonnage" mineralization and narrower, higher grade gold mineralization potentially amenable to underground mining. Selected high-grade and bulk-tonnage intersections include

| Hole # | From (m) | To (m) | Interval (m) | Au (g/t) | Zone |
|---|---|---|---|---|---|
| SWF-05-20 (drilled by Sabina) | n/a | n/a | 45.50 | 4.21 | Rahill |
| *including* | n/a | n/a | 34.95 | 5.05 | Rahill |
| SWF-05-24 (drilled by Sabina) | 324.43 | 340.00 | 15.57 | 12.00 | Rahill |
| *including* | n/a | n/a | 2.26 | 71.72 | Rahill |
| 05-WB-37 | 138.35 | 153.10 | 14.75 | 2.95 | Bonanza |
| | 281.20 | 356.00 | 74.80 | 3.34 | Follansbee |
| *including* | 322.65 | 334.00 | 11.35 | 7.68 | Follansbee |
| 05WB-47 | 153.00 | 178.00 | 25.00 | 6.21 | Follansbee |
| *including* | 159.00 | 168.00 | 9.00 | 11.28 | Follansbee |
| 05WB-50 | 118.00 | 122.00 | 4.00 | 9.86 | Bonanza |
| | 244.50 | 264.20 | 19.70 | 3.75 | Rahill |
| *including* | 249.00 | 259.40 | 10.40 | 5.15 | Rahill |
| 05WB-51 | 194.60 | 233.20 | 38.60 | 2.43 | Bonanza |
| 05WB-55 | 237.00 | 271.00 | 34.00 | 2.26 | Bonanza |
| 05WB-56 | 456.00 | 493.00 | 37.00 | 2.65 | Follansbee |
| | 507.00 | 511.00 | 4.00 | 15.39 | Follansbee |
| 05WB-57 | 373.60 | 380.40 | 6.80 | 16.39 | Follansbee |
| 05WB-58 | 296.00 | 328.00 | 32.00 | 3.92 | Bonanza |

Drilling is expected to continue, with 3 to 4 drills, into early 2006 in order to define and expand the mineralized zones with holes on 25 m centres. Wolfden is working towards completing sufficient drilling to allow an initial resource estimate on the zones by spring or summer 2006.

## Birch–Uchi Greenstone Belt

The Birch–Uchi greenstone belt is geologically similar to the Red Lake greenstone belt with the exception that a much larger proportion of the rocks are Confederation assemblage. Both gold and base metals have been historically produced, but there are no currently producing mines. While large areas of ground are held, exploration activity is not as intense as in the Red Lake greenstone belt. Claim staking activity during the year centred on Gold Canyon Resources' Springpole Lake gold project.

### CONTINUUM RESOURCES LTD./TRIBUTE MINERALS INC.

The 2 companies have optioned the adjacent McIntyre property from Sunridge Gold Corp. and are jointly exploring it with their existing land package. The project is referred to as the **Richardson Lake-McIntyre Project**. Within the property, there are several historic gold occurrences, including the Cooper shaft. Work in 2005 consisted of 2346 m of diamond drilling in 18 holes along an 8 km long east-trending structural zone of gold showings. The zone shows widespread quartz-carbonate alteration and quartz veining some with visible gold. Gold intercepts from the vicinity of the Cooper shaft are listed below (Continuum Resources, news release, June 22, 2005).

| Hole | From (m) | To (m) | Length (m) | Au (g/t) |
|---|---|---|---|---|
| MC-3 | 57.08 | 59.24 | 2.16 | 0.70 |
| MC-5 | 51.48 | 53.00 | 1.52 | 14.90 |
| MB04-2 (2004) | 154.60 | 158.03 | 3.43 | 9.60 |
| *includes* | 154.60 | 156.59 | 1.99 | 14.65 |
| *includes* | 155.18 | 156.59 | 1.41 | 18.82 |
| MC-6 | 70.42 | 71.50 | 1.08 | 4.70 |
| MC-7 | 81.26 | 81.87 | 0.61 | 8.70 |
| MC-8 | 45.94 | 46.42 | 0.48 | 3.20 |
| MC-9 | 53.9 | 55.2 | 1.30 | 3.10 |
| MC-9 | 57.13 | 57.70 | 0.57 | 2.40 |
| MC-10 | 58.22 | 59.06 | 0.84 | 0.90 |
| MC-11 | 44.78 | 45.14 | 0.36 | 0.70 |

### GOLD CANYON RESOURCES

Gold Canyon Resources carried out diamond drilling on its wholly owned **Springpole Project**. This extensive drilling program comprising 42 holes was carried out in 3 areas: 1) 33 holes in the Core Area, totalling 21 873 feet (6666.89 m), most of which were in the East Extension zone, but included other zones; 2) 8 holes in the Southwest Target Area, totalling 11 711.3 feet (3569.6 m); and 3) 1 hole on the **Sandy Point Property**, which totalled 590.6 feet (180.01m) (Gold Canyon, news release, December 7, 2005). Significant results are tabulated below.

| Hole # | Depth (feet) | From (feet) | To (feet) | Interval (feet) | Assay (oz/ton) | Area |
|---|---|---|---|---|---|---|
| BL05-322 | 1267 | 554.5 | 907.0 | 352.5 | 205 ppb | Southwest Target Area |
| BL05-323 | 1357 | 704.9 | 828.4 | 123.5 | 259 ppb | Southwest Target Area |
| BL05-324 | 1057 | 604.0 | 704.5 | 100.5 | 175 ppb | Southwest Target Area |
| BL05-325 | 1710.3 | 910.6 | 1250.0 | 339.4 | 191 ppb | Southwest Target Area |
| BL05-326 | 390.4 | 63.0 | 83.3 | 20.3 | 0.137 | East Extension zone |
| *including* | | 63.0 | 65.0 | 2.0 | 0.423 | |
| BL05-327 | 580.7 | 63.5 | 132.1 | 68.6 | 0.136 | East Extension zone |
| *including* | | 91.0 | 93.5 | 2.5 | 0.181 | |
| *including* | | 127.3 | 132.1 | 4.8 | 1.619 | |
| BL05-328 | 689 | 29.5 | 177.2 | 147.7 | 0.095 | East Extension zone |
| *including* | | 143.5 | 152.1 | 8.6 | 0.647 | |
| *including* | | 143.5 | 146.4 | 2.9 | 1.422 | |

| Hole # | | Depth (feet) | From (feet) | To (feet) | Interval (feet) | Assay (oz/ton) | Area |
|---|---|---|---|---|---|---|---|
| BL05-329 | | 2307 | 187.0 | 197.0 | 10.0 | 0.199 | Southwest Target Area |
| | *including* | | 187.0 | 192.0 | 5.0 | 0.271 | |
| BL05-330 | | 433.1 | 111.0 | 113.0 | 2.0 | 0.484 | East Extension zone |
| BL05-331 | | 239.5 | 32.4 | 35.6 | 3.2 | 0.142 | East Extension zone |
| BL05-332 | | 590.6 | 269.8 | 270.0 | 0.2 | 0.420 | Sandy Point |
| BL05-332 | | | 392.3 | 399.9 | 7.6 | 0.032 | |
| BL05-335 | | 1677 | 1491.7 | 1570.8 | 79.1 | 200 ppb | Southwest Target Area |
| BL05-336 | | 649.6 | 550.2 | 575.0 | 24.8 | 0.059 | 295 zone |
| | *including* | | 569.8 | 572.7 | 2.9 | 0.409 | |
| BL05-337 | | 649.6 | 341.5 | 347.3 | 5.8 | 0.135 | 295 zone |
| BL05-338 | | 659.5 | 44.0 | 116.9 | 72.9 | 0.022 | 338 zone |
| | *including* | | 291.5 | 294.0 | 2.5 | 0.246 | |
| BL05-339 | | 1274 | 26.5 | 83.0 | 56.5 | >200 ppb | Southwest Target Area |
| BL05-340 | | 502 | 83.5 | 87.9 | 4.4 | 0.209 | East Extension zone |
| | *including* | | 95.7 | 98.3 | 2.6 | 0.466 | |
| BL05-340 | | | 115.9 | 131.1 | 15.2 | 1.261 | |
| | *including* | | 115.9 | 121.4 | 5.5 | 1.668 | |
| *Re-assay of same interval* | | | 115.9 | 121.4 | 5.5 | 3.405 | |
| | *including* | | 117.1 | 120.1 | 3.0 | 5.533 | |
| BL05-343 | | 383.9 | 84.3 | 141.3 | 57.0 | 0.204 | East Extension zone |
| | *including* | | 84.3 | 95.6 | 11.3 | 0.913 | |
| BL05-344 | | 98.4 | 60.7 | 64.9 | 4.2 | 1.017 | East Extension zone |
| BL05-345 | | 413.4 | 229.9 | 311.9 | 82.0 | 0.057 | East Extension zone |
| | *including* | | 239.2 | 241.5 | 2.3 | 0.319 | |
| | *including* | | 258.0 | 261.7 | 3.7 | 0.517 | |
| BL05-346 | | 600.4 | 49.2 | 51.5 | 2.3 | 0.435 | East Extension zone |
| BL05-347 | | 196.8 | 80.0 | 116.0 | 36.0 | 0.053 | East Extension zone |
| BL05-348 | | 101.4 | 44.0 | 55.0 | 11.0 | 0.178 | East Extension zone |
| | *including* | | 44.0 | 47.0 | 3.0 | 0.393 | |
| BL05-348A | | 295.2 | 148.1 | 160.0 | 11.9 | 0.060 | East Extension zone |
| BL05-349 | | 502 | No significant intercepts, bottomed in +9% Fluorite | | | | North Porphyry zone |
| BL05-350 | | 206.7 | 79.9 | 107.5 | 27.6 | 0.042 | East Extension zone |
| | *including* | | 79.9 | 82.0 | 2.1 | 0.369 | |
| BL05-351 | | 446.2 | 17.5 | 37.1 | 19.6 | 0.083 | East Extension zone |
| | *including* | | 30.0 | 34.0 | 4.0 | 0.266 | |
| BL05-352 | | 206.7 | 30.6 | 49.8 | 19.2 | 0.284 | East Extension zone |
| | *including* | | 42.2 | 47.0 | 4.8 | 1.012 | |
| BL05-352 | | | 136.3 | 139.6 | 3.3 | 0.315 | |
| BL05-30W1 | | 1524 | 1191.0 | 1192.6 | 1.6 | 1.072 | Main & Vein zones |
| BL05-30W1 | | | 1406.0 | 1407.0 | 1.0 | 0.204 | |

Gold Canyon conducted geological mapping, stripping, channel sampling and geochemical sampling of some previously unprospected areas within the Springpole property. A three-dimensional model of the deposit is being created using GEMCOM software to assist future exploration and to build a resource inventory (Gold Canyon Resources Summary Report 2005, November 2005). Jilbey Gold Exploration Ltd. has assigned its interest in several unpatented claims in the area surrounding the Springpole Gold Project (news release, August 12, 2005) that are now part of the Springpole project.

## JILBEY GOLD EXPLORATION LTD.

Jilbey had an extensive land package in the Birch–Uchi greenstone belt. Effective September 1, 2005, Jilbey Gold merged with High River Gold Mines Ltd. and ceased to exist as a corporate entity. Jilbey's properties were acquired by High River Acquisition Corp., a wholly owned subsidiary of High River Gold Mines Ltd. Subsequently, part of

Jilbey's land package was acquired by Gold Canyon Resources Ltd. (*see above*) and Merrex Resources Inc. (Merrex Resources, news release, December 1, 2005). Airborne magnetic and electromagnetic surveys were carried out by Jammin Rock Resources over two of the former Jilbey properties held by High River Acquisition Corp. (*see* Table 4).

### KING'S BAY GOLD CORPORATION

King's Bay Gold Corporation currently holds the **Richardson Lake property** in the Casummit Lake area in the Birch–Uchi greenstone belt. No work was carried out here in 2005 (J. Archibald, King's Bay Gold Corp., personal communication, 2006).

### SABINA SILVER CORPORATION

During the year, Sabina Resources changed its name to Sabina Silver Corporation and also its focus (Sabina Silver, news release, September 26, 2005). It sold its 60% interest in the Follansbee property to 40%-partner Wolfden Resources, for $2 000 000 cash and 4 000 000 common shares of Wolfden. Sabina retained its interests in other properties in the Red Lake greenstone belt (80% in the Redaurum property and 50% in the Newman–Madsen property with Wolfden Resources) and Birch–Uchi greenstone belt (100% interest in the Golden Sidewalk and Skinner properties).

#### Golden Sidewalk

The property comprises 12 claims in the western portion of the Birch–Uchi greenstone belt, in Skinner Township. During the year, Sabina acquired the remaining 28% interest from private company St. Mary Resources. Geophysical surveys in 2005 indicated elevated IP chargeability and resistivity over 600 m of the Joe Vein. A 22-hole, 4140 m diamond-drill program was completed in early 2005 and 20, 16-hectare claim units were staked adjacent to the western boundary of the property.

## Northern Greenstone Belts

Exploration activities in the northern greenstone belts include work carried out in the Berens River and Sachigo subprovinces. Both of these subprovinces consist of relatively small, isolated greenstone belts surrounded by extensive granitic and gneissic terrane. Although numerous mineral occurrences are reported from both the Berens River and Sachigo subprovinces, historical mineral production has been restricted to 2 mines. Base and precious metals were produced at the Berens River Mine (157 341 ounces gold, 5 676 486 ounces silver, 5 105 873 pounds of lead and 1 797 091 pounds of zinc) and gold from the Sachigo River Mine (52 560 ounces gold) prior to 1950 (Mineral Deposit Inventory 2, MDI53C13SE00011 Berens River).

Canstar Resources Inc. flew an airborne geophysical survey over its Tahoe Lake and Shrimp Lake base metals properties. Houston Lake Mining Inc. continued the evaluation of its Pakeagama Lake rare metals property (*see* Table 5).

Staking activity (Gold Canyon Resources Inc., Rampart Ventures Ltd., *see* Table 5) centred on occurrences of base metals (copper, zinc, molybdenum) and uranium along the Bearhead Lake fault, from Borland Lake, through Favourable Lake to the Setting Net Lake area. Staking for diamonds (Superior Diamonds, *see* Table 5) also occurred in areas of the extreme northern portion of the district (Ellard Lake and Thorne Lake areas).

## LAND USE PLANNING ACTIVITY

Resident Geologist Office staff assisted the Pikangikum First Nation and the Ministry of Natural Resources (MNR) in land use planning for the Whitefeather Forest and Adjacent Areas throughout the year. Involvement included resolution of the last remaining minor issues of the Whitefeather PSMP, assistance in the Whitefeather Forest Open Houses in Pikangikum and Red Lake in November, participation in the Whitefeather Forest Land Use Planning and mining stakeholder consultation session in Thunder Bay, and participation in 8 Whitefeather Forest Planning Team meetings in Red Lake and Pikangikum. Proposed protected areas within the planning area were subsequently withdrawn from staking.

A.F. Lichtblau participated in MNDM's (Resident Geologist Program, Mines Group, and Northern Development) information session in Sandy Lake First Nation. Staff also participated at the Minister's Northern Roads First Nations Transportation Authority funding announcement.

## RESIDENT GEOLOGIST STAFF AND ACTIVITIES

At year end, staff of the Red Lake Resident Geologist's office comprised Andreas Lichtblau, Regional Resident Geologist, Carmen Storey, District Geologist, and Denise Saunders, acting District Support Geologist. A.F. Lichtblau continued as acting Northwest Regional Land Use Geologist until February 25. Robyn Gula was employed as acting District Support Geologist from January 24 through July 22. Jodie Church was employed as an office assistant in the Summer Experience Program; under the same program, Leah Roy was hired as MNDM Education Co-ordinator at the Red Lake Regional Heritage Centre.

C.C. Storey and A.F. Lichtblau led several field trips through portions of the Red Lake belt, including a trip in April for Wolfden Resources and Sabina Resources personnel and another on June 7 for 27 participants of the Canadian Institute of Mining, Metallurgy and Petroleum (CIMM) Exploration Roundup. A.F. Lichtblau and A. Raoul, District Support Geologist, Kenora District, presented the geoscience portion of the Dryden High School Conservation Course to 60 Grade 10 students at the Thunder Lake rehabilitated mine site, near Dryden. A.F. Lichtblau gave a two-hour talk to the Grades 4 & 5 classes at the Golden Learning Centre on June 10.

A.F. Lichtblau attended the Prospectors and Developers Association of Canada Annual Convention in Toronto between March 4 and 9, the Woodland Caribou Signature Site Open house in Red Lake on May 11, the Integrating Aboriginal People in Natural Resource Management Conference (IAPNRM) in Winnipeg from June 22 to 24, and the Ontario Prospectors Association meeting in Toronto on December 13 and 14, where he spoke on Northwestern Ontario Production and Exploration Highlights.

All Red Lake Resident Geologist Program staff attended the 2005 Ontario Mines and Minerals Symposium in Thunder Bay on April 6 and 7, where they presented a poster display on Red Lake District Production and Exploration Highlights. A talk on the same topic was also given by A.F. Lichtblau. C.C. Storey and A.F. Lichtblau organized the CIMM Exploration Roundup held on June 6 in Red Lake, and staffed the MNDM Booth at the annual Norseman Floatplane Festival, July 24, as well as the Ontario booth at the Manitoba Mining & Minerals Symposium in Winnipeg, Manitoba. C.C. Storey also attended the Institute of Lake Superior Geology meeting in Nipigon, Ontario, in May.

A.F. Lichtblau participated in the OGS Far North Mapping GAP Analysis meeting in October. Staff organized and participated in Red Lake and Sioux Lookout consultation sessions regarding the Ontario Mineral Development Strategy and Far North Mapping Initiative, and throughout the year, attended a number of evening sessions of the Campbell Mine liaison committee.

## DRILL CORE STORAGE SITE

The remote diamond-drill core storage compound is located 6 km south of Red Lake, on Highway 105. The compound is operated as a self-serve facility by the Red Lake Resident Geologist's Office. The Kenora Drill Core Library houses an additional 14 529.9 m of diamond drill core from the Red Lake District.

In 2005, the remote drill core facility had 22 users, a significant increase from 2004. Industry visits usually extend over several days, involving examining, relogging and sampling core that would be otherwise unavailable.

Diamond-drill core from 4 properties was donated to the remote core facility this year. Cypress Development Corp./Skyharbour Resources Ltd. McKenzie Island project (14 holes, totalling 3059.9 m), Skyharbour Resources Ltd. Heyson Property 2003 drilling and 2004 drilling (13 holes, totalling 2018.2 m, and 13 holes, totalling 2666 m) and Skyharbour Resources Ltd./Consolidated Abaddon Resources Inc. Black Bear property (3 holes, totalling 694.9 m) and Sidace Lake property (10 holes, totalling 2215.7 m).

**Table 6.** Drill core stored at the Red Lake Resident Geologist's District Remote Drill Core Compound.

| Company | Property | Township/Area | Length (m) |
|---|---|---|---|
| Ansil Resources Ltd. | Baird Tp | Baird Township | 177.9 m |
| Ansil Resources Ltd. | Willans Tp | Willans Township | 351 m |
| Asarco Exploration Co. of Canada Ltd. | Skinner, Goodall | Skinner and Goodall townships | 444.0 m |
| Barrick Gold Corporation | Hasaga Mine | Heyson Township | 2 889.8 m |
| Barrick Gold Corporation | Red Lake Gold Shore Mine | Dome Township | 106.7 m |
| Barrick Gold Corporation | Red Lake Gold Shore Mine | Dome Township | 257.6 m |
| Canadian Industrial Minerals Corp. | Bouzon Lake | Heyson Township | 2 029.2 m |
| CAMET Howey and Hasaga Mine Hazards Drilling | Howey-Hasaga | Heyson Township | 1 027.2 m |
| Central Geophysics Ltd. | Conifer Lake Complex | Sumach Lake Area | 170.8 m |
| Cross Lake Minerals Ltd. | Gerry Lake | Gerry Lake Area | 981.0 m |
| * Cypress Development Corp./ Skyharbour Resources Ltd. | McKenzie Island | Dome Township | 3 059.9 m |
| Cypress Development Corp./ Skyharbour Resources Ltd. | McKenzie Island | Dome Township | 2 081.8 m |
| East-West Resource Corporation | Bouzan Lake | Heyson Township | 1 489.5 m |
| Freewest Resources Ltd. | McQuaig Property | Dome Township | 993.1 m |
| Hemlo Gold Mines Ltd. | Miles Red Lake | Todd Township | 369.3 m |
| ITL Capital Corp./Rupert Resources Ltd. | Durham-McEwen | Balmer Township | 1 682.5 m |
| Lac Properties Ltd. | Hasaga Mine: Time-Domain Reflectometry (TDR) cables installed in the Crown Pillar | Heyson Township | 33.7 m |
| Loydex Resources Inc. | Bug River | Heyson Township | 190 m |
| Mutual Resources Ltd. | Dixie Lake | Dixie Lake Area | 499.3 m |
| Noramco Explorations Inc. | Various | Ball Township | 31 268.6 m |
| " | | Balmer Township | |
| " | | Byshe Township | |
| " | | Dome Township | |
| " | | Fairlie Township | |
| " | | Goodall Township | |
| " | | Honeywell Township | |
| " | | McDonough Township | |
| " | | Ranger Township | |
| " | | Shabumeni Lake Area | |
| " | | Skinner Township | |
| " | | Todd Township | |
| Noranda Exploration Company Ltd. | Selco Dixie Joint Venture | South of Otter Lake and Karas Lake areas | 1 638.2 m |
| Pure Gold Resources Inc. | McKenzie Island | Dome Township | 1 762.4 m |
| Rio Algom Exploration Co. Ltd. | Fly Lake | Mitchell Township | 731.0 m |
| * Skyharbour Resources Ltd. | Heyson | Heyson and Byshe township | 2 018.2 m |
| * Skyharbour Resources Ltd. | Heyson | Heyson and Byshe townships | 731.0 m |
| * Skyharbour Resources Ltd./ Consolidated Abaddon Resources Inc. | Sidace Lake Property | Sobeski Lake Area | 2 215.7 m |
| * Skyharbour Resources Ltd./ Consolidated Abaddon Resources Inc. | Black Bear Property | Black Bear Lake Area | 694.9 m |
| Teck Exploration Ltd. | Howey Mine | Heyson Township | 7 255.5 m |
| United Reef Petroleums Limited | Aiken-Russett | Baird Township | 8 154.0 m |
| Western Pacific Energy Corp. | Swain Lake | Goodall Township | 1 936.2 m |
| **TOTAL** | | | **79 175.0 m** |

* 2005 submission and length is total length of hole including overburden

## PROPERTY EXAMINATIONS

Major authorship of the following property examinations is indicated in parentheses following the titles. Table 7 lists the property visits conducted by staff in 2005 in the Red Lake District. Several additional property visits carried out in the Kenora District are included. A location map, keyed to the property numbers, is shown in Figures 3, 4, 7 and 8.

**Table 7.** Property visits conducted by the Red Lake Regional Resident Geologist and staff in 2005.

| Number (keyed to Figures 3, 4, 7 and 8) | Property or Occurrence |
|---|---|
| 1 | Bridget Lake occurrence (Big Lode Mines), Ball Township |
| 2 | Red Lake stromatolites, Ball Township |
| 3 | Fox Farm occurrence, Willans Township |
| 4 | Fox Farm west occurrence, Willans Township |
| 5 | Ray Frank Karas Lake claims, Karas Lake Area |
| 6 | Ray Frank pegmatite, Karas Lake Area |
| 7 | Eros Red Lake Mines occurrence, Willans Township |
| 8 | Lake Rowan Mine, Todd Township |
| 9 | Nungessor Lake deformation zone, Nungessor Lake Area |
| 10 | Nungessor Lake greenstone reconnaissance, Nungessor Lake and Hanton Lake areas |
| 11 | Red Crest Mine, Todd Township |
| 12 | Spud Road reconnaissance, Corless Township |
| 13 | Cedar Lake dome (Kenora) |
| 14 | Powerline uranium occurrence – Vermilion Bay |
| 15 | Hudson–Patricia Mine, Dent Township |
| 16 | Mount Jamie Mine, Todd Township |
| 17 | Galena Island, Ball Township |
| 18 | Lime kiln, Todd Township |
| 19 | Madsen Mine, Heyson Township |
| 20 | Tustin–Bridges sediments (Kenora) |
| 21 | Wolfden core shack (Bonanza property) |
| 22 | Mystery Lake dome (Kenora) |
| 23 | Lingman Lake |
| 24 | Howey Mine TDR cables |
| 25 | Sabina drill site (Follansbee property) |
| 26 | Thunder Lake site (Kenora) |
| 27 | Adams Lake argillites |
| 28 | Goldcorp Mine site |

## Hudson–Patricia Mine (C.C. Storey)

The Hudson–Patricia Mine is located in north-central Dent Township on the boundary with Goodall Township. Most of the property and all the underground workings are in Dent Township. The shaft and remains of the surface plant are approximately 335 m south of the township boundary (Figure 9). A 2200 m trail from North Bay of Confederation Lake provides access to the site. This trail appears on recent air photographs of the area and differs from the trail(s) shown on earlier maps of the area. The mine property currently comprises 12 leased claims held by Breakwater Resources Ltd., although, in the past, the claim block was much larger. Dent and Goodall townships were mapped by Pryslak (1970, 1972) and are included in a regional geological synthesis by Thurston (1985), Rogers (2002) and another by Sanborn-Barrie et al. (2004). The mine workings and regional geology are described by Bruce (1929), Furse (1934), Harding (1936) and Goodwin (1967). Holbrooke (1935), Paterson (1936) and Sutton (no date) described the geology and surface workings of the property when it was actively being mined. Rayner (1976a, 1976b) produced the most recent reported geological and geophysical maps of the property.

The Hudson–Patricia Mine produced 1857 ounces of gold and 305 ounces of silver from 11 228 tons of ore in 1936 and 1937 giving a grade of 0.165 ounce Au per ton. There has been no recorded production since. The first report of the property is in 1927 when it was being explored by Metals Development Ltd. (Bruce 1929). Underground development had begun by 1929 with an inclined shaft to 100 feet with 61 feet of drifting (Sinclair et al. 1930). Sporadic work under Metals Development Ltd. continued until 1934. Hudson Patricia Gold Mines took over the property in April 1934. At this time, the underground workings consisted of Number 1 inclined shaft with an inclined depth of 100 feet, Number 2 vertical shaft sunk to 237 feet with a level at 211 feet and a winze was started from the 211 foot level (Sinclair et al. 1936). A 50-ton per day amalgamation mill was installed in 1936 with ore provided from a shrinkage stope on the 211 foot level. All mining and production ceased in January 1937 (Sinclair et al. 1939). At the end of production, the underground workings included Number 1 shaft to 100 feet, Number 2 shaft to 237 feet, with levels at 80 feet and 211 feet and the 74° inclined winze from the 211-foot level to 325 foot level with drifts and crosscuts on each of the 3 levels (Sinclair et al. 1937, 1938, 1939). Hudson Patricia Gold Mines was bankrupt in 1940 (*Canadian Mines Register*, 1960, v.1). The mill head grade was $10.85 per ton (Au at $35.00 per ounce) or 0.31 ounce Au per ton with a recovery of $9.76 or 0.279 ounce Au per ton the equivalent of 89.9% recovery in June 1936 (Paterson 1936).

The property remained dormant as patented claims until 1974 when the claims came open. The first 4 claims were staked by St. Joseph Explorations Ltd. on June 1, 1974, and an additional 12 claims were added in July 1974 (Rayner 1975). St. Joseph Explorations Ltd. became Sulpetro Minerals Ltd. in 1981 (*Canadian Mines Handbook* 1981), and was subsequently sold to Novamin Inc. in 1985 (*Canadian Mines Handbook* 1986). Novamin Inc. amalgamated with Breakwater Resources Ltd. in 1988 (*Canadian Mines Handbook* 1989). St. Joseph Explorations Ltd. carried out ground geophysical surveys, geological mapping and 8 diamond drill holes for 1401.7 feet (430 m) in 1975 and 1976. There has been no recorded exploration work since.

Pryslak (1970, 1972) mapped the area of the mine as massive mafic metavolcanic rocks intruded by a north-striking granodiorite body approximately 365 m east of the shaft and another north-northwest-striking granodiorite body exposed 60 m northeast of the shaft. Pryslak shows numerous north-striking mafic intrusive bodies west and north of the mine property, particularly in Goodall Township. Intermediate metavolcanic rocks intercalated with the mafic metavolcanic rocks make up a small proportion of the bedrock package. The rock units underlying the property strike north to south with minor local variations (Rayner 1976b; Rogers 2002). Foliations are also predominantly north trending, again with local variations, and are vertical to steeply east dipping. Thurston (1985) first subdivided the rocks into assemblages of different ages and indicates these rocks to be part of Cycle III, now referred to as the Confederation assemblage. Sanborn-Barrie et al. (2004) considers these rocks to be part of the 2745 to 2742 Ma Knott sequence of the Confederation assemblage and indicates the rocks are of calc-alkaline affinity. The felsic intrusive rocks are grouped with the Confederation assemblage (Confederation Plutonic Suite) as a whole and have ages of 2740 to 2744 Ma where dated (Sanborn-Barrie et al. 2004). Rogers (2002) shows a north-trending regional fault system west of the property and Fyon and Lane (1985) show a north to south deformation zone that would cross the eastern part of the property if extrapolated farther north.

Property-scale mapping by Rayner (1976b) shows a similar lithology pattern with the additional detail of narrow intermediate to felsic metavolcanic rock units intercalated with the mafic metavolcanic rocks. Rayner subdivided the felsic intrusive rocks into the large granodiorite body as shown by Pryslak and 2 quartz-feldspar porphyry bodies

as shown on Figure 10. Rayner also mapped several small gabbro bodies on the property. In the vicinity of the surface projection of the underground workings, Rayner shows an east-northeast-striking fault, offset by 2 north-striking faults. The shaft was sunk beside the east-northeast-striking fault zone and workings are parallel to it. All descriptions of the mineralized zones place them in the same orientation as this fault. Surface trenches expose mineralization near the eastern offset of this fault (*see* Figure 10). Fault offsets of the veins underground made exploration difficult and limited the size of the ore shoots as described by Holbrooke (1935). In addition to the mafic to intermediate metavolcanic rocks, the underground workings encountered quartz porphyry, feldspar porphyry, diorite and several small dikes of rock types referred to as aplite, basic dikes and acid dikes (the basic dikes are often referred to as lamprophyric by Sutton) (Holbrooke 1935; Sutton, no date). Both authors mention carbonate alteration and the presence of cherty material and pyrite stringers at the top of a basalt flow and, in some cases, layers of massive pyrite 4 inches (10 cm) thick (Holbrooke 1935). Goodwin (1967) describes similar cherty pyritic layers exposed at the shaft (area now obscured by vegetation). The main vein system strikes 065° and dips 65° north and varies from a few centimetres to approximately a metre in width. Pyrite, galena, sphalerite and chalcopyrite are reported to occur in the quartz veins along with gold. The metavolcanic rock hosts pyrite along the vein contacts (Furse 1934; Holbrooke 1935). Underground exploration indicated that the veins contained numerous inclusions of chloritic host rock and other highly altered rock. Alteration was not noted as extending deeply into the host rock (Sutton).

Contemporary descriptions indicate 4 ore shoots: A, B, East zone and West zone. Grade estimates for these are in Table 8. There is no overall reserve estimate for the mine, but Sutton produced an estimate of 5193 tons of 0.365 ounce Au per ton above the first level (100 foot level in the inclined shaft) circa 1935. There is no indication if this material was mined as all production was reported to be from the second (211 foot) level. In addition to the main quartz vein, Sutton describes calcite stringers and quartz calcite stringers, the latter containing pyrite and a small amount of gold. Narrow quartz and quartz carbonate veins accompanied by sulphides are reported in the St. Joseph Explorations Ltd. diamond-drill core. The drill logs describe quartz vein and sulphide mineralization over lengths less than 1 m. Visible gold was reported in the core from hole HP-8-76. Assay results from this drilling and other sources are in Tables 9 and 10.

The major rock types described by Holbrooke (1935) and Sutton can be seen in the waste dump. Extensive iron carbonate is present in material reported to be from the mineralized zones. Assay results from several samples from the dump and the trench at the sulphide showing are illustrated in Table 11. Sampling of the waste dump by Rayner (1976b) indicates elevated background gold in most of the rock removed from the underground workings. Quartz vein material sampled from the dump returned 0.54 ounce Au per ton comparing favourably with underground sampling carried out while the mine was in operation (*see* Table 8). Grab samples by Rayner (1976b) from old surface trenches show erratic high gold values much higher than any reported in the underground workings or the diamond drilling (*see* Table 10).

Surface exploration by St. Joseph Explorations Ltd. exposed base metal sulphide mineralization hosted in dacite to rhyodacite lapilli tuff at the north end of Bogford Lake on the old road that extends west from the mine towards Woman Lake (*see* Figure 9). Mineralization consists of layers of pyrite, sphalerite and chalcopyrite along with cherty material across approximately 30 cm. The zone strikes 125/90° and is part of a much wider rusty weathering zone, measuring up to 5 m wide. Diamond drilling, by St. Joseph Explorations, beneath this zone, intersected a core length of 22.4 feet (6.8 m) of sulphide-bearing rock and a second sulphide intersection of 2.5 feet (76 cm) at 68.5 feet (20.8 m) core length corresponding to approximately 20 m vertical depth. This second zone is southwest of the surface exposure. The mine area rocks are part of the Confederation assemblage, which contains numerous examples of base metal mineralization, including the past-producing South Bay Mine, which is 9 km to the south. The felsic metavolcanic rocks, with the sulphide zones exposed at Bogford Lake, appear to be part of a north-striking felsic unit, which was identified by Rogers (2002) as the Honeywell volcanics (dacite flows and minor tuff). This unit extends south from the south end of Bogford Lake to the shore of Confederation Lake and on past Rowe Lake.

The Hudson–Patricia Mine is an example of an under-explored narrow vein gold deposit. Gold grades reported during its operation varied, as were the reported widths of the ore zones. More detailed mapping and extensive diamond drilling are required to determine the true gold potential of the property. Volcanogenic massive sulphide mineralization was not recognized when the mine was in operation. The sulphide zones identified by St. Joseph Explorations Ltd. and the reports of sulphide mineralization while the mine was in operation indicate that the area has good potential as a base metal exploration target. The entire felsic unit as shown by Rogers (2002) deserves exploration for its base metal potential.

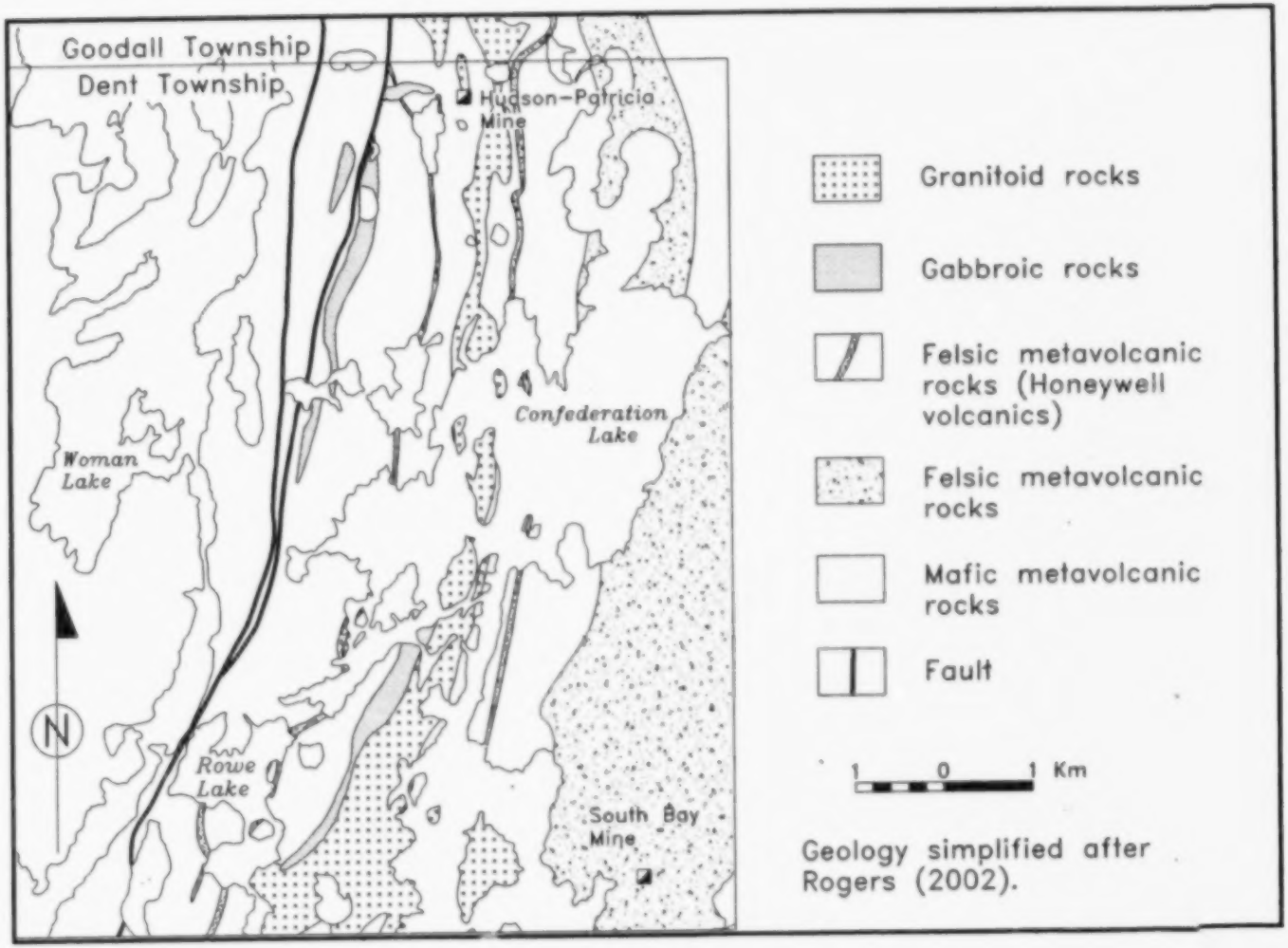


**Figure 9.** Location and geological setting of the Hudson–Patricia Mine.

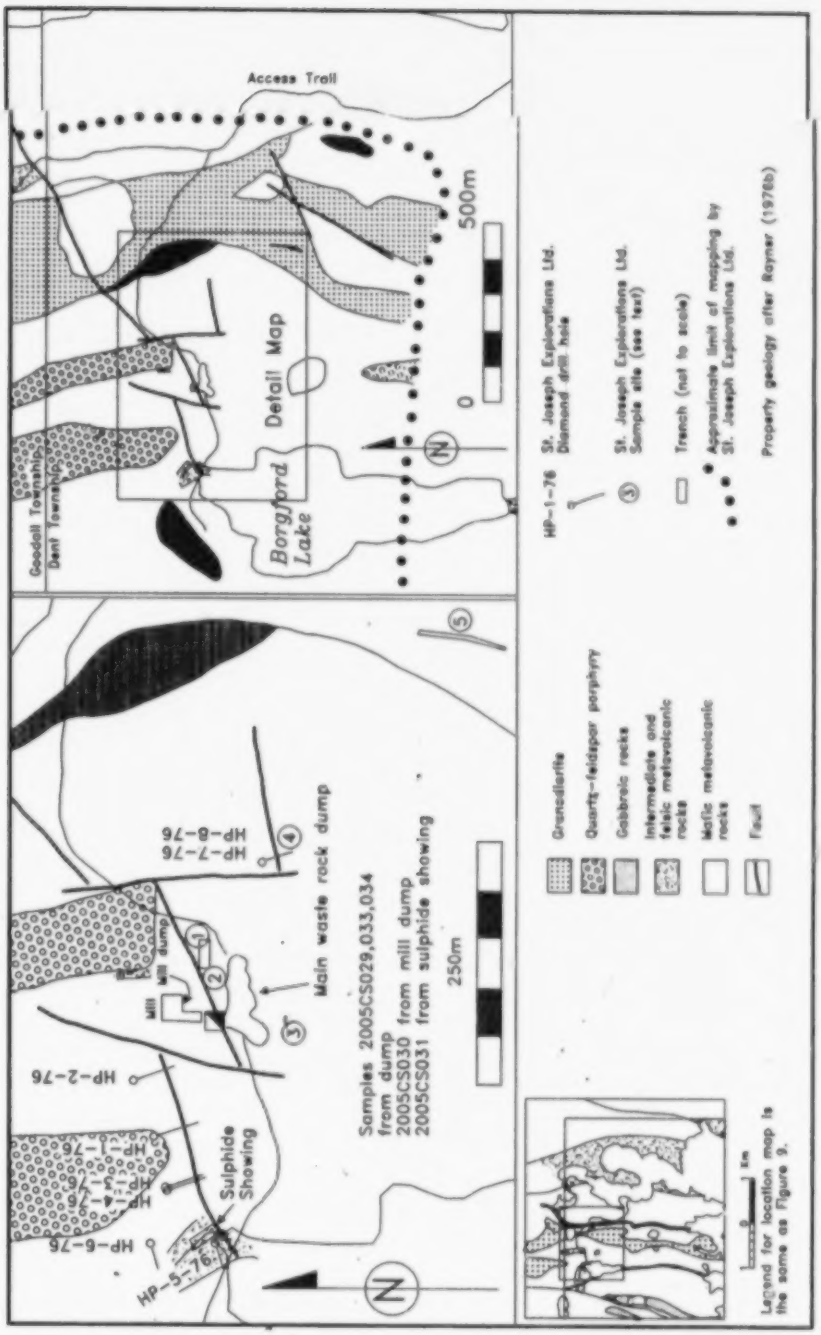


**Figure 10.** Hudson–Patricia Mine: property geology, diamond drilling and sample locations.

**Table 8.** Gold assays from sampling while the mine was operating (*from* Holbrooke 1935).

| Sample | Sample Type | Sample Length (feet) | Gold (ounce per ton) |
|---|---|---|---|
| Ore Shoot A | Back & face sample | 5.54 | 0.352 |
| Ore shoot B (i) | | 3.0 | 0.05 |
| Ore shoot B (ii) | | 4.11 | 0.352 |
| Ore shoot B (iii) | | 3.45 | 0.105 |
| Ore shoot B (iv) | | 3.3 | 0.280 |
| Ore shoot B (v) | | 3.5 | 0.106 |
| East zone | | 4 to 5 | 0.25 |
| West zone | Face sample | 5 | 0.5 |

**Table 9.** St. Joseph Explorations Ltd. significant sampling results from 1976 diamond-drilling program.

| Hole | Sample # | From (feet) | To (feet) | Length (feet) | Cu (%) | Zn (%) | Ag (opt) | Au (opt) |
|---|---|---|---|---|---|---|---|---|
| HP-1-76 | 3701 | 130.5 | 132.5 | 2 | tr | 0.02 | tr | tr |
| | 3702 | 200.8 | 203.3 | 2.5 | tr | 0.02 | tr | 0.01 |
| | 3703 | 205.3 | 207.8 | 2.5 | tr | 0.02 | tr | tr |
| HP-2-76 | 3704 | 31.5 | 33.5 | 2.0 | 0.01 | 0.01 | tr | tr |
| | 3705 | 47.9 | 49.9 | 2.0 | 0.01 | tr | tr | tr |
| | 3706 | 53.0 | 56.0 | 3.0 | 0.01 | tr | tr | tr |
| | 3703 | 56.0 | 59.0 | 3.0 | 0.01 | tr | tr | tr |
| | 3708 | 170.0 | 172.0 | 2.0 | 0.01 | tr | tr | tr |
| | 3709 | 188.2 | 190.2 | 2.0 | tr | 0.01 | tr | tr |
| HP-3-76 | 3710 | 92.5 | 94.5 | 2.0 | 0.01 | 0.02 | tr | tr |
| | 3711 | 100.5 | 102.0 | 1.5 | 0.02 | 0.01 | tr | tr |
| | 3712 | 102.0 | 103.0 | 1.0 | 0.01 | 0.01 | tr | tr |
| HP-4-76 | 3713 | 179.0 | 180.0 | 1.0 | 0.01 | 0.01 | tr | tr |
| | 3714 | 200.0 | 201.0 | 1.0 | 0.01 | 0.01 | tr | tr |
| | 3715 | 223.7 | 225.7 | 2.0 | 0.01 | 0.02 | tr | tr |
| | 3716 | 225.7 | 226.7 | 1.0 | tr | 0.02 | tr | 0.02 |
| | 3717 | 226.7 | 228.7 | 2.0 | 0.01 | 0.02 | tr | tr |
| HP-5-76 | 3718 | 2.6 | 5.0 | 2.4 | tr | 0.01 | tr | tr |
| | 3719 | 5.0 | 10.0 | 5.0 | tr | 0.01 | tr | tr |
| | 3720 | 10.0 | 15.0 | 5.0 | tr | 0.01 | tr | tr |
| | 3721 | 15.0 | 20.0 | 5.0 | tr | 0.02 | tr | tr |
| | 3722 | 20.0 | 23.3 | 3.3 | tr | 0.03 | tr | tr |
| | 3723 | 23.3 | 26.0 | 2.7 | tr | 0.02 | tr | tr |
| | 3724 | 68.5 | 71.0 | 2.5 | 0.21 | 0.31 | tr | tr |
| HP-7-76 | 3725 | 22.5 | 24.5 | 2.0 | 0.04 | 0.01 | tr | tr |
| | 3726 | 61.0 | 62.0 | 1.0 | 0.01 | tr | tr | 0.26 |
| | 3727 | 109.5 | 111.0 | 1.5 | tr | tr | tr | tr |
| HP-8-76 | 3728 | 51.0 | 53.5 | 2.5 | tr | 0.01 | tr | tr |
| | 3729 | 72.8 | 74.3 | 1.5 | tr | 0.01 | tr | tr |
| | 3730 | 74.3 | 75.2 | 0.9 | tr | tr | tr | 0.08 |
| | 3731 | 75.2 | 76.1 | 0.9 | nil | tr | 0.08 | 1.12 |
| | 3732 | 76.1 | 77.6 | 1.5 | tr | tr | tr | 0.66 |
| | 3733 | 172.5 | 174.0 | 1.5 | tr | tr | tr | tr |
| | 3734 | 176.4 | 177.9 | 1.5 | tr | 0.03 | tr | tr |

**Table 10.** St. Joseph Explorations Ltd. results from 1976 surface sampling (*see* Figure 10 for locations).

| Location | Sample # | Type | Au (opt) | Ag (opt) | Zn (%) | Cu (%) | Pb (%) |
|---|---|---|---|---|---|---|---|
| Sulphide showing | | Grab | 0.01 | 2.79 | 12.9 | 1.80 | 0.51 |
| 1 | | Grab | 19.4 | | | | |
| 1 | | Chip (5 feet) | 0.676 | | | | |
| 2 | | Tailings channel | 0.072 | | | | |
| 2 | | Tailings channel | 0.084 | | | | |
| 3 | 1910 | Dump channel | 0.043 | | | | |
| 3 | 1911 | Dump channel | 0.103 | | | | |
| 3 | 1912 | Dump channel | 0.005 | | | | |
| 3 | 1913 | Dump channel | 0.007 | | | | |
| 3 | 1914 | Dump channel | 0.104 | | | | |
| 4 | | Grab | 6.46 | | | | |
| 5 | | Grab | 5.83 | | | | |
| 5 | | Grab | 2.45 | | | | |
| 5 | 1974 | Chip (4 feet) | 0.93 | | | | |
| 5 | 1972 | Chip (4 feet) | tr | | | | |
| 5 | 1971 | Chip (4 feet) | 0.75 | | | | |

**Table 11.** Results of sampling during property examination in 2005 (*see* Table 12 for sample descriptions).

| Sample # | Au (ppb) | Au (opt) | Ag (ppm) | Ag (opt) | Cu (ppm) | Zn (ppm) | Pb (ppm) |
|---|---|---|---|---|---|---|---|
| 2005CS029 | >10000 | 0.54 | N.D. | — | 26.8 | 145 | 156 |
| 2005CS030 | 59.02 | | 2.00 | 0.058 | 14.4 | 72.1 | 9.80 |
| 2005CS031 | 760.8 | | 23.0 | 0.671 | 4192.20 | 17516.20 | 1435.4 |
| 2005CS033 | N.D. | | 3.00 | 0.087 | 95.9 | 199.54 | 8.40 |
| 2005CS034 | 11.24 | | 2.00 | 0.058 | 5.88 | 58.1 | 5.80 |

Analyses by Geoscience Laboratories, Ministry of Northern Development and Mines, Sudbury, Ontario.
N.D., not detected; — not analyzed

**Table 12.** Descriptions of samples collected during property examination in 2005 (*see* Figure 10 for locations).

| Sample # | Description |
|---|---|
| 2005CS029 | Iron carbonate altered rock with quartz vein from dump, 1% (estimate) disseminated pyrite. |
| 2005CS030 | Iron carbonate altered rock and iron carbonate vein material with fine disseminated pyrite from 'ore' pile beside mill. |
| 2005CS031 | Sulphide rich exhalite layer. Fine layers (2–4 mm) of pyrite with lesser amounts of chalcopyrite and sphalerite from sulphide showing trench. |
| 2005CS033 | Dark green fine grained feldspar-phyric basalt from dump. Rounded, irregular shaped feldspar phenocrysts 1–8 mm, fine calcite veinlets and a trace of fine pyrite in both rock and veinlets. |
| 2005CS034 | Dark grey quartz porphyry from dump. Minor pyrite, cut by fine calcite veinlets. |

## GEOLOGICAL HAZARD INSPECTIONS

Rehabilitation of the Berens River Mine site was completed during the first quarter of the year. The mine was in operation between 1939 and 1948. All remaining infrastructure was demolished and environmentally sensitive material was transported to facilities in Winnipeg via the winter road system through Red Lake. The open stope was partially filled with waste material and fenced.

Teck Cominco Limited submitted a closure plan for the Howey Mine, situated within the Municipality of Red Lake. Concerns about ground conditions near the open stope and the state of historical tailings were addressed and explained at an Open House for the general public. The company also initiated groundwater studies and the sampling of several tailings areas. Resident's Office staff supplied maps of tailings sites and information on ore processing practices.

Staff also assisted Mine Rehabilitation Section personnel on visits to the inactive Buffalo, Mount Jamie, Red Crest and Lake Rowan mine sites.

## RECOMMENDATIONS FOR EXPLORATION

### Gold

Recent gold discoveries in the heart of the Red Lake camp by Rubicon Minerals Corporation (Phoenix zone), Sabina Silver Corporation and Wolfden Resources Inc. (Follansbee and Bonanza properties) and Southern Star/Exall Resources (Bruce Channel zone), have emphasized the fact that inactive, and what may have been thought of as sufficiently explored properties, can be successfully brought to life by the application of new ideas and state of the art technologies (deep, directional drilling; three-dimensional (3D) modelling; gravity and seismic surveys). On-going research emphasizes the importance of proximity to the Neoarchean–Mesoarchean unconformity: all major deposits of the camp (Campbell–Red Lake, Cochenour and Madsen) occur within Mesoarchean rocks a few hundred metres below the regional unconformity. It can be traced in bedrock exposures and is interpreted to have an unfolded length of approximately 105 km in the central Red Lake greenstone belt. Mineralization in the Bruce Channel, Bonanza and Follansbee zones are interpreted to occur immediately adjacent to the unconformity. Within ferroan-dolomite altered mafic footwall rocks, the potential for significant gold mineralization may increase with proximity to the unconformity.

Mineralization in the Phoenix zone and at Wolfden Resources/Placer Dome GAZ is associated with east-southeast (parallel to $D_2$) fractures in the structural hanging wall of the East Bay serpentinite, a belt-scale lithologic unit that can be interpreted to extend from the Sidace Lake property of Goldcorp Inc./Planet Exploration (*see* "Goldcorp Inc./Planet Exploration Inc.–Sidace Lake Joint Venture") southwest to the Cochenour Mine area, a distance of approximately 30 km. A number of other gold occurrences (e.g., Abino, Beatrice) occur along this "East Bay Trend": the proximity of the serpentinite may be a controlling factor.

Proximity to major batholiths should not be considered a negative factor; Madsen, the second largest gold deposit of the belt, interpreted to be a high-temperature disseminated-replacement-style gold skarn deposit within or immediately below the unconformity, lies within the metamorphic aureole and, within 2 km of surface exposures, of the Killala–Baird batholith. In recent years, only grassroots-style exploration work has been done in areas west of Madsen: several kilometres of prospective strike extent remain to be followed-up by more intensive geophysical and geochemical surveys and diamond drilling.

### Molybdenum and Uranium

There are numerous reported molybdenum and uranium occurrences along the **Bearhead fault** between the Sachigo and Berens River subprovinces (Ayres 1970; Ayres et al. 1973; Stone 1998b). Documented resources include the Setting Net Lake deposit (100 000 000 tons of 0.09% $MoS_2$) and uranium at the Bearhead Lake prospect (978 810 tons of 0.06% $U_3O_8$ to a depth of 500 feet). There has been no exploration activity for these commodities for many years. The Setting Net Lake area is highly prospective for molybdenum and uranium. Molybdenum is also reported from the northern portion of the Lingman Lake greenstone belt, the eastern portion of the Birch–Uchi greenstone belt at the southeast corner of McNaughten Township, at Senior Lake and Fawthrop Lake.

## Base Metals

Copper-nickel has not been produced from the Red Lake or Birch–Uchi greenstone belts, but copper-nickel (and associated PGE) mineral occurrences have been reported from several mafic intrusive bodies. In particular, the Trout Bay assemblage, a mafic volcanic sequence of ocean floor affinity in the western part of the Red Lake greenstone belt, comprises tholeiitic volcanic rocks, and associated mafic to ultramafic intrusions, which host at least 7 Ni-Cu-PGE occurrences (e.g., Trout Bay Nickel, Goldcorp Inc.).

Sanukitoid-type intrusive bodies have been identified in the Red Lake greenstone belt (Faulkenham Lake stock: Sanborn-Barrie, Skulski and Parker 2004) and in some parts of the Berens River and Sachigo subprovinces to the north (Frame Lake, Stormer Lake and Nungesser: Stone 1998a, 2005). No record of prospecting in these areas exists, although an OGS mapping crew reported an unassayed Cu-Ni occurrence in the margins of the Frame Lake intrusion (Stone 1998a).

Volcanogenic massive sulphide (VMS) deposits and prospects, and associated proximal chloritic and alumino-silicate alteration, have been documented in the Red Lake and Birch–Uchi greenstone belts, hosted in Confederation assemblage rocks. Confederation assemblage rocks are exposed on the eastern and southern flank of the Birch–Uchi greenstone belt, the area between the Red Lake and Birch–Uchi greenstone belts and both the southern edge and northern edge of the Red Lake greenstone belt.

FII-type and FIII-type rhyolites occur throughout a 100 km band extending east from Red Lake to the past-producing South Bay Mine (1.6 million tons grading 11.06% Zn, 1.8% Cu and 2.12 ounces Ag per ton). World-class deposits, such as the Mattabi and Geco deposits, are associated with FII-type rhyolite; the Kidd Creek deposit is associated with FIII-type rhyolite. A heightened awareness now exists in the Red Lake District of the potential of discovery of a major base metal sulphide deposit. A number of near-surface lenses were found during exploration in the 1970s. Tribute Minerals continues to build upon its success in tracking mineralized horizons with deep-penetrating Titan-24 magnetotelluric–induced polarization geophysical surveys.

Increasing commodity prices are rejuvenating interest in the area for VMS deposits. In particular, the portion of the belt between Red Lake and South Bay Mine, is of prime exploration potential, but the other areas of Confederation assemblage rocks deserve attention to locate FII- and FIII-type rhyolites and possible VMS-type mineralization.

# OGS ACTIVITIES AND RESEARCH BY OTHERS

Publications received in the Red Lake Resident Geologist Office during 2005 are listed in Table 13. The following research activities took place in 2005:

- R.D. Dyer and S.M. Hamilton, Sedimentary Geoscience Section, OGS, carried out field work for a high-density lake sediment and water geochemical survey of the Red Lake greenstone belt.
- G.P. Beakhouse (OGS), K. Cassidy (Geoscience Australia) and Placer Dome are working on a project to study the influence of certain types of felsic intrusive rocks on gold mineralization.
- K. Williamson continued his PhD work at the Goldcorp Inc. Red Lake Mine.
- M. Tucker (University of Ottawa) carried out work for a BSc (Hons) thesis "Mineralogical and geochemical comparison of two different ore zones at the Red Lake Mine".
- Dr. P.C. Thurston (Laurentian University) carried out field work examining Bruce Channel and Huston Assemblage metasediments on the Goldcorp Red Lake Mine property.
- Dr. Guoxiang Chi (University of Regina) carried out field work on fluid inclusions in the Red Lake greenstone belt.
- G. Chi, B. Dubé, K. Williamson and A.E. Williams-Jones completed a fluid inclusion study on the formation of the Campbell-Red Lake gold deposit (*see* Table 13).
- Solomon (University of Regina) is completing a BSc thesis "Stable isotope and fluid inclusion study of the Buffalo gold deposit, Red Lake, Ontario".

**Table 13**. Publications received by the Red Lake Office in 2005.

| Title | Author(s) | Type and Year of Publication |
|---|---|---|
| Eabametoong First Nation Glossary of Geological and Mining-Related Terms | Eabametoong First Nation and Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Paper 170, 2004 |
| Geology of the Northern Superior Area | D. Stone | Ontario Geological Survey, Open File Report 6140, 2005 |
| Precambrian Geology Northern Superior Area | D. Stone | Ontario Geological Survey, Map P.3545, 1:250 000, 2005 |
| Mining and Environmental Terminology Glossary | Ojibway & Cree Cultural Centre | Ojibway & Cree Cultural Centre and DeBeers Canada, 2003 |
| Report of Activities 2005 | Manitoba Geological Survey | Ministry of Industry, Economic Development and Mines, Manitoba Geological Survey, 2005 |
| Geology and Scenery, Killarney Provincial Park Area, Ontario | R.L. Debicki | Ontario Geological Survey, Guidebook No. 6, 1982 |
| Magnetic Survey of Robb and Jamieson Townships District of Cochrane | R.S. Middleton | Ontario Division of Mines, Geophysical Report 1, 1973 |
| Magnetic Survey of Loveland and Macdiarmid Townships District of Cochrane | R.S. Middleton | Ontario Division of Mines, Geophysical Report 2, 1974 |
| Aggregate Resources Inventory of Mono Township, Dufferin County, Southern Ontario | Ontario Geological Survey | Ontario Geological Survey, Aggregate Resources Inventory Paper 1, 1979 |
| Northern Ontario Field Trip Guidebook, VIIIth International Kimberlite Conference | B.A. Kjarsgaard, ed. | VIIIth International Kimberlite Conference, 2003 |
| Report of Activities, 2004, Resident Geologist Program, Red Lake Regional Resident Geologist Report: Red Lake and Kenora District | A. Lichtblau, P. Hinz, C. Ravnaas, C.C. Storey, L. Kosloski, A. Raoul and R. Gula | Ontario Geological Survey, Open File Report 6146, 2005 |
| Report of Activities, 2004, Resident Geologist Program, Kirkland Lake Regional Resident Geologist Report: Kirkland Lake District | G. Meyer, G.P.B. Grabowski, D.L. Guindon and E.C. Chaloux | Ontario Geological Survey, Open File Report 6150, 2005 |
| Report of Activities, 2004, Resident Geologist Program, Thunder Bay North Regional Resident Geologist Report: Thunder Bay North District | M.C. Smyk, G.D. White, M.A. Magee and C. Komar | Ontario Geological Survey, Open File Report 6147, 2005 |
| Report of Activities, 2004, Resident Geologist Program, Thunder Bay South Regional Resident Geologist Report: Thunder Bay South District | B.R. Schnieders, J.F. Scott, M.A. Magee, T.L. Muir and C. Komar | Ontario Geological Survey, Open File Report 6148, 2005 |
| Report of Activities, 2004, Resident Geologist Program, Regional Land Use Geologist Report: Northwestern, Northeastern and Southern Ontario Regions | R.L. Debicki, A.P. Drost, A.F. Lichtblau, R.J. Fraser and D.J. Rowell | Ontario Geological Survey, Open File Report 6153, 2005 |
| Report of Activities, 2004, Resident Geologist Program, Southern Ontario Regional Resident Geologist Report: Southeastern and Southwestern Ontario Districts, Mines and Minerals Information Centre, and Petroleum Resources Centre | P.J. Sangster, V.C. Papertzian, K.G. Steele, C.R. Lee, M. Barua, D.A. Laidlaw and T.R. Carter | Ontario Geological Survey, Open File Report 6152, 2005 |
| Report of Activities, 2004, Resident Geologist Program, Timmins Regional Resident Geologist Report: Timmins and Sault Ste. Marie Districts | B.T. Atkinson, M. Hailstone, G.Wm. Seim, A.C. Wilson, D.M. Draper, V.J. Bulman and A. Pace | Ontario Geological Survey, Open File Report 6149, 2005 |
| Report of Activities, 2004, Resident Geologist Program, Kirkland Lake Regional Geologist Report: Sudbury District | M. Cosec, D. Farrow and J.M. Gaudreau | Ontario Geological Survey, Open File Report 6151, 2005 |
| Industrial Mineral Assessment and Sampling of Mica in Central and Eastern Ontario | Watts, Griffis and McOuat and Ontario Geological Survey | Ontario Geological Survey, Open File Report 6086, 2002 |
| Geological Setting of Volcanogenic Massive Sulphide Mineralization in the Kamiskotia Area: Discover Abitibi Initiative | B. Hathway, G. Hudak and M.A. Hamilton | Ontario Geological Survey, Open File Report 6155, 2005 |
| Digital Northern Ontario Engineering Geology Terrain Study | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 160, 2005 |

| Title | Author(s) | Type and Year of Publication |
|---|---|---|
| Lithogeochemical Data for Plutonic Rocks Sampled Between 2000 and 2003 | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 159, 2005 |
| Three Dimensional Surficial Geochemistry | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 164, 2005 |
| Use of a Soil Gas Hydrocarbon Technique to Differentiate Barren Graphitic and Sulphidic Conductors from Ore-Bearing Conductors | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 165, 2005 |
| Gedex Airborne Gravity Gradiometer (AGG) System | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 166, 2005 |
| Three Dimensional Geochemistry in the Abitibi Development of Geochemical Exploration Methods | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 168, 2005 |
| Development of a High Bandwidth Frequency Domain EM System | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 169, 2005 |
| Geochemical Detection of Disseminated Palladium Mineralization in Ontario | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 170, 2005 |
| Application of a Geodata Analysis System (GeoDAS) to Mineral Exploration in Ontario | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 171, 2005 |
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| Development and Evaluation of a 3D Vector Orientation Software Illustrated with Triaxial Gradient Magnetic Data | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 178, 2005 |
| Detectability of Mineral Deposits with Electrical Resistivity and Induced Polarization Methods | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 181, 2005 |
| Mineral Exploration by Systematic Analysis of Groundwater Upwelling in Lakes and Rivers | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 182, 2005 |
| Assessment of Using 3D Large-Scale Visualization and Data Integration for the Lake Nipigon Region Geoscience Initiative | Ontario Geological Survey | Ontario Geological Survey, Miscellaneous Release—Data 184, 2005 |
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| Ontario Drill Hole Database—December 2005 Release | Ontario Geological Survey | Ontario Geological Survey, Data Set 13—Revision 1 |

# MINERAL DEPOSITS NOT BEING MINED

**Table 14.** Mineral deposits not being mined in the Red Lake District in 2005.

**Abbreviations**

| | | | |
|---|---|---|---|
| AF | Assessment Files | MLS | Mining Lands, Sudbury |
| CMH | *Canadian Mines Handbook* | MR | Mining Recorder |
| GR | Geological Report | NM | *The Northern Miner* |
| MDC | Mineral Deposit Circular | OFR | Open File Report |
| MDIR | Mineral Deposit Inventory record | PC | Personal Communication |

| Deposit Name and NTS | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status |
|---|---|---|---|---|
| Abino<br>Bateman, Balmer and Dome Townships<br>(52N/04SW) | Au | Total Granodiorite Zone: drill indicated tonnage 405 162 tons 0.203 opt Au from three sub-zones | AF (McClean 1976) | Patent |
| Aiken–Russet<br>Baird Township<br>(52K/13NW) | Au | Total reserves of 102 555 tons of 0.22 opt Au | AF (Kuryliw 1967) | Patent |
| Alcourt (Copper Man, Hanson–Campbell)<br>Fairlie Township<br>(52N/04SW) | Au | Reserves: 20 000 tons of 0.45 opt Au from 1959-60 diamond drilling<br>No. 1 vein: 17 000 tonnes of 0.2429 oz per tonne Au from 1959-60 diamond drilling and 1981 sampling program | AF (Tilsley 1981) | Patent |
| Annco Mine<br>Dome Township<br>(52N/04SW) | Au | Reserves: 50 000 tons of "Excellent Grade" (0.35 opt Au?) | Energy Mines and Resources Canada (1989) | Patent |
| Bathurst Mine<br>Skinner Township<br>(52N/07SW) | Au | Reserves: 80 000 tons of 0.587 opt Au | Energy Mines and Resources Canada (1989) | Leased |
| Bearhead Lake Prospect<br>53C/12NW | $U_3O_8$ | Reserves: 978 810 tons of 0.06% $U_3O_8$ to a depth of 500 feet | MDC 25 (Robertson and Gould 1983) | Staked Claim |
| Berens River Mine<br>(Golsil, Zahavy)<br>(53C/13SE) | Au, Ag, Pb, Zn | Reserves:<br>No. 1 Zone: 75 000 tons of 0.1-0.12 opt Au, 4.0-5.0 opt Ag<br>No. 3 Zone: 982 213 tons of 0.26 opt Au, 4.8 opt Ag, 0.77% Pb, 1.12% Zn<br>(713 249 tons indicated, 268 964 tons inferred) at 0.15 opt Au cut-off to 750 metre level | AF (Bevan 1983) | Staked Claim |
| Bluffy Lake<br>(52K/14SE) | Fe | Reserves: 21 000 000 tons at 22.86% Fe | Prelim. Map P.1199 (Breaks et al. 1976) | Licence of Occupation |
| Borland Lake<br>(53D/16NE) | Ag, Au | Probable Reserves: 502 412 tons of 8.09 opt Ag and 0.02 opt Au | Massive Resources Ltd. Preliminary Prospectus - August 6, 1987 | Open |

| Deposit Name and NTS | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status |
|---|---|---|---|---|
| Buffalo Red Lake<br>Heyson Township<br>(52N/04SW) | Au | Reserves: 421 728 tonnes of 0.139 opt Au drill indicated in 1980 | AF (Kita 1988) | Patent |
| Cochenour–Willans Mine<br>Dome Township<br>(52N/04SW) | Au | Reserves: Proven and probable 173 000 tons of 0.51 opt Au, possible reserves 274 000 tons of 0.59 opt Au | NM - Dec. 12, 1994 p.7 | Patent, Licence of Occupation |
| Cole Gold Mine<br>Ball Township<br>(52M/01SE) | Au | Reserves: 119 780 tons of 0.41 opt Au probable and indicated | AF (Wilton 1973) | Patent, Licence of Occupation |
| Consolidated Marcus<br>Dome Township<br>(52N/04SW) | Au | Reserves: 60 000 tons of 0.18 opt Au | Energy Mines and Resources Canada (1989) | Patent |
| Copper Lode A–Rexdale Group Prospect<br>(52K/15NW) | Cu, Ag | Reserves: 236 424 tons of 1.94% Cu, 1.22 opt Ag<br>or 425 612 tons of 1.56% Cu, 0.98 opt Ag<br>or 854 007 tons of 1.01% Cu, 0.57 opt Ag | AF(Archibald 1970)<br>MP 152 (Atkinson, Parker and Storey 1990b) | Staked Claim |
| Copper–Lode D<br>Belanger Township<br>(52K/15NW) | Cu, Zn | Reserves: 36 000 tons of 0.26% Cu, 7.58% Zn | AF (MacDougall 1996) | Leased |
| Copper–Lode E<br>Belanger Township<br>(52K/15NW) | Cu, Ag | Reserves: 160 000 tons of 8.28% Zn, 1.02% Cu, 0.39 opt Ag | AF (Archibald 1970) | Leased |
| Dixie Creek<br>(52K/13SE) | Au | Reserves: 500 000 tons of 0.12 opt Au | MDIR | Staked Claim |
| Dixie 3 Prospect<br>(52K/14NW) | Cu, Zn | Reserves: 91 000 tons of 10.0% Zn, 1.0% Cu | AF (MacDougall 1995) | Leased - Mining Rights Only,<br>Staked Claim |
| Dixie 18 Prospect<br>(52K/14NW) | Zn | Reserves: 110 000 tons of 0.5% Cu, 12.5% Zn, 0.57 opt Ag | AF (King and Petrie 1998) | Staked Claim |
| GAZ<br>Bateman Township<br>(52N/04NE) | Au | Resource (NI43-101): 1 400 000 tonnes of 8.0 g/t Au, in 5 lenses | Wolfden Resources, news release, Feb.23, 2005 | Staked claims |
| Gold Eagle Mine<br>(Western Discovery Zone)<br>Dome Township<br>(52N/04SW) | Au | Resource (NI43-101): 309 000 tonnes at 16.67 g/t Au (uncut) | Micon International (Pressacco 2004) | Patent |
| Grassett Prospect<br>Earngey Township<br>(52N/02SE) | Au | Reserves: 78 295 tons of 0.22 opt Au<br>(Part of the Hill–Sloan–Tivy Vein) | Energy Mines and Resources Canada (1989) | Patent |
| Griffith Mine<br>(52K/14SW) | Fe | Reserves: 120 000 000 tons of 29% Fe | GR 82 (Shklanka 1970) | Withdrawn from staking |
| Hasaga Mine<br>Heyson Township<br>(52N/04SW) | Au | Reserves:<br>C Block (below 1800 feet) - 200 203 tons of 0.192 opt Au<br>Stopes - 41 430 tons of 0.104 opt Au<br>Pillars - 6 365 tons of 0.134 opt Au | GR 56 (Ferguson 1968) | Patent |
| Hill–Sloan–Tivy<br>Earngey Township<br>(52N/02SE) | Au | Reserves: 296 000 tons of 0.219 opt Au<br>(Grassett Prospect Reserves may be included in total) | AF (Germundson 1995) | Patent |
| Horseshoe Island<br>(52N/08NW) | Au | Reserves: 893 508 tons of 0.14 opt Au | Northwest Prospector, March/April 1990, p.27 | Staked Claim |
| Howey Mine<br>Heyson Township<br>(52N/04SW) | Au | Reserves: 780 000 tons of 0.08 opt Au | Energy Mines and Resources Canada (1989) | Patent, Licence of Occupation |
| Jackson–Manion Mine<br>Dent Township<br>(52N/02SE) | Au | Reserves: 40 000 tons of 0.5 opt Au | NM - March 14, 1985, p.21 | Patent |

| Deposit Name and NTS | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status |
|---|---|---|---|---|
| Joy–New Zone (Diamond Willow Zone, Creek Zone) (52K/14NW) | Cu, Zn | Reserves: 300 000 tons of 4% combined Cu-Zn | AF (Lewis 1994) | Staked Claim |
| Kesaka Lake (52K/16NW) | Fe | Reserves: 312 500 000 tons of 31.1% Fe to a depth of 100 feet | MRC11 (Shklanka 1968) | Open, Staked Claim |
| Laverty (Thrall) Heyson Township (52N/04SW) | Au | Reserves:<br>Speculative reserves from the Diabase dike zone: 329 000 tons of 0.08 opt Au or 75 000 tons of 0.15 opt Au | AF (Gillies 1982) | Patent |
| Lingman Lake (53F/15SW) | Au | Reserves: 1 172 753 tons of 0.20 opt Au in all zones at 5.0 foot minimum width and a cut-off grade of 0.08 opt Au | AF (McPhee 1989) | Patent |
| Madsen Mine Baird Township (52K/13NW) | Au | Measured & Indicated Mineral Reserves:<br>282 000 ounces Au<br>Inferred Mineral Resources:<br>204 000 ounces Au | (Claude Resources Inc www.clauderesources.com; accessed March 10, 2006) | Patent |
| May–Spiers Ball Township (52M/01SE) | Au | Reserves: 30 000 tons of 0.09 opt Au | AF (Bayne 1981) | Staked Claim |
| McCombe (Root Lake) (52J/13NE) | Lithia | Reserves: 2.3 million tons of 1.3% lithia to the 500 foot level | MP 90 (Breaks 1979) | Patent, Licence of Occupation |
| McFinley Mine Bateman Township (52N/04SE) | Au | Inferred Mineral Resource: 334 007 tons *in situ* at an average grade of 0.20 opt Au to a depth of 400 feet. Broken down as follows:<br>FWC-3 Zone: 3 875 tons of 0.50 opt Au<br>C Zone: 10 520 tons of 0.87 opt Au<br>FWC-1 + 2: 30 600 tons of 0.24 opt Au<br>C-2 Zone: 128 700 tons of 0.11 opt Au<br>C-3 Zone: 36 562 tons of 0.19 opt Au<br>WL Zone: 10 500 tons of 0.49 opt Au<br>403 Zone: 5 000 tons of 0.80 opt Au<br>BX Zone: 2 000 tons of 0.84 opt Au<br>D Zone: 106 250 tons of 0.15 opt Au<br>Resource Estimate: 890 000 tons at an in-place grade of 0.19 opt Au to a depth of about 1700 ft | AF (Hogg 2002) | Patent, Licence of Occupation |
| Mount Jamie Todd Township (52M/01SE) | Au | Reserves:<br>Main Zone: 47 048 tons of 0.425 opt Au<br>No. 2 Shaft area: 25 360 tons of 0.37 opt Au | AF (Gordon 1988) | Patent |
| My–Ritt (Coin Lake) Heyson Township (52N/04SW) | Au | Unknown | OFR 5558 (Durocher, Burchell and Andrews 1987) | Patent |
| New Faulkenham Mines Ltd. (Faulkenham Lake) Baird Township (52K/13NW) | Au | Reserves: 15 000 tons of 0.428 opt Au ($15.00 at $35.00 per ounce Au) | AF (Holbrooke 1958) | Patent |
| North Spirit Lake (Crown Trust) (53C/07NW) | Fe | Reserves: 1.3 million tons per vertical foot of 33.94% Fe | MRC 11 (Shklanka 1968)<br>GR150 (Wood 1977) | Patent, Leased |
| Northgate Prospect Earngey Township (52N/02SE) | Au | Reserves: 64 600 tons of 0.28 opt Au | AF (Zinn 1984) | Staked Claim |
| Ogani Lake (52K/15NE) | Fe | Reserves: 100 000 000 tons of 21.6% Fe | MDC (Shklanka 1968) | Open |
| Papaonga Lake (52K/16NE) | Fe | Reserves: 13 500 000 tons of 31.06% Fe | MDIR | Open |
| Red Crest (Red Summit) Todd Township (52M/01SE) | Au | Reserves: 47 439 tons of 0.269 opt Au (uncut grade) (Horwood 1945)<br>38 000 of 0.3 opt Au | NM - March 14, 1985, p.21<br>ODM Annual Report (Horwood 1945) | Patent |

| Deposit Name and NTS | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status |
|---|---|---|---|---|
| Redaurum<br>Baird Township<br>(52N/04SW) | Au | Possible Reserves:<br>14A Zone: 243 750 tons of 0.22 opt Au<br>26 250 tons of 0.20 opt Au<br>No. 2 Zone: 137 500 tons of 0.18 opt Au<br>No. 3 Zone: 102 500 tons of 0.18 opt Au<br>Camp Zone: 24 750 tons of 0.13 pt Au | AF (Barclay 1986) | Patent |
| Richardson<br>(Kostynuk Bros. Mine)<br>(52N/09SW) | Au | Reserves: 700 000 tons of 0.2 opt Au inferred reserves | OFR 5835 (Parker and Atkinson 1992) | Patent |
| Rowan<br>Todd Township<br>(52M/01SE) | Au | Reserves: 10 900 tons of 0.657 opt Au ($23.00 a ton at $35.00 per ounce) | AF (Bishop 1939) | Patent |
| Sanshaw<br>(Whitehorse Island)<br>Dome Township<br>(52N/04SW) | Au | Reserves: 175 000 tons of 0.20 opt Au | NM - June 11, 1953 | Patent, Licence of Occupation |
| Setting Net Lake<br>(53C/13SE) | $MoS_2$ | Reserves: 100 000 000 tons of 0.09% $MoS_2$ | MDIR<br>NM - March 23, 1973 | Open |
| Sol d'Or<br>Honeywell Township<br>(52N/07SE) | Au | Reserves: 8 565 tons of 0.57 opt Au | Energy Mines and Resources Canada (1989) | Staked Claim |
| Springpole Lake<br>Prospect<br>(52N/08NW) | Au | Reserves:<br>Portage Zone: 7.9 million tons of 0.07 opt Au<br>27 million tons of 0.035 opt Au including 4 million tons of 0.091 opt Au and 405 000 tons of 0.14 opt Au | OFR 5835 (Parker and Atkinson 1992) | Patent, Staked Claims |
| Starratt–Olsen Mine<br>Baird Township<br>(52K/13NW) | Au | Reserves: 15 000 tons of 0.45 opt Au | NM - July 26, 1973 | Patent |
| Trout Bay Zinc Pit Zone<br>Mulcahy Township<br>(52M/01SE) | Zn, Cu, Pb, Ag, Au | Reserves:<br>West Zone: 13 776 tons of 4.75% Zn, 0.68% Cu, 0.94 opt Ag<br>East Zone: 124 760 tons 7.86% Zn, 1.5% Cu, 0.24% Pb, 1.7 opt Ag, 0.007 opt Au | MP 147 (Atkinson, Parker and Storey 1990a)<br>Preliminary Map P.567 (Riley 1969)<br>MDIR | Patent (Mining Rights Only), Leased (Mining Rights Only, Licence of Occupation |
| Uchi Mine<br>Earngey Township<br>(52N/02SE) | Au | Reserves: 214 000 tons of 0.147 opt Au | Energy Mines and Resources Canada (1989) | Patent |
| Wilmar Mine<br>Dome Township<br>(52N/04SW) | Au | Reserves: Quoted from OFR 5558 unless indicated otherwise:<br>Diorite Dike Zone: 140 000 tons of 0.21 opt Au<br>East Breccia Zone:<br>31 500 tons of 0.32 opt Au (Proven)<br>50 500 tons of 0.25 opt Au (Probable)<br>1 777 000 tons of 0.24 opt Au (Possible)<br>Carbonate Zone:<br>25 000 tons of 0.17 opt Au (Probable)<br>7 500 tons of 0.15 opt Au (Possible)<br>West Granodiorite Zone:<br>3.15 to 4.5 million tons of 0.076 to 0.131 opt Au (Energy Mines and Resources Canada 1989)<br>Granodiorite Zone:<br>5 700 000 tons of 0.10 to 0.15 opt Au | OFR 5558 (Durocher, Burchell and Andrews 1987)<br>Energy Mines and Resources Canada (1989) | Patent |
| Woco Vein<br>Earngey Township<br>(52N/02SE) | Au | Reserves: 21 263 tons of 0.80 opt Au | AF (Germundson 1995) | Staked Claims |
| Young, H.G. Mines Ltd.<br>Balmer Township<br>(52N/04SW) | Au | Reserves: 270 000 tons of 0.31 opt Au | OFR 5558 (Durocher, Burchell and Andrews 1987) | Patent |

Note: This table contains tonnage and grade estimates referred to as reserves (indicated, possible, probable), which were determined at various times by methods largely unreported. None of these estimates are known to conform to the standards required for National Instrument (NI) 43-101. All should be considered inferred mineral resources not reserves.

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Ontario

# Ontario Geological Survey
# Regional Resident Geologist Program

## Red Lake Regional Resident Geologist (Kenora District)—2005

by

C. Ravnaas and A. Raoul

2006

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# RED LAKE REGIONAL RESIDENT GEOLOGIST (KENORA DISTRICT)–2005

**C. Ravnaas[1] and A. Raoul[2]**

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## INTRODUCTION

Dimension stone continued to be produced in the Kenora District in 2005. No metallic mineral production was recorded in the District. Major exploration projects targeting base metals at Kenbridge Mine (Blackstone Ventures Ltd.), North Rock Cu-Ni Property (MetalCORP Ltd.) and gold at the Atikwa Au-Cu Property (Opawica Explorations Inc.), Duport Gold Property (Halo Resources Ltd.), Mine Centre Property (Q-Gold Resources Ltd.), Plomp Farm Property (Champion Bear Resources Ltd.) and Rainy River Property (Rainy River Resources Ltd.) were completed in 2005.

With a continued rise in commodity prices, and positive results from exploration efforts in 2004, activity in the Kenora District continued at a level comparable to previous years. A total of 51 exploration projects were conducted by mineral exploration companies and individual prospectors during the year. Work completed within the Kenora District and filed for assessment credits, or otherwise provided, is shown in Table 1.

## MINING ACTIVITY

There was no production of either base or precious metals in the Kenora District in 2005. Production continued from 6 granite quarries in 2005. The quarries are keyed, with letters, to Figure 2.

## Nelson Granite Ltd. (A Division of Granite Monuments Ltd.)

**Nelson Granite Ltd.** continued year-round production from 4 stone quarries in the Kenora District during 2005. Production continued at the **Docker Township quarry** (A), 10 km southwest of the town of Vermilion Bay. Homogenous, medium-grained, pink granite is produced from a granite plug, which is part of the Dryberry batholith. Fracturing is negligible, allowing for removal of blocks of virtually any size. The majority of the stone produced is used in the monument industry and is sold as "Vermilion Pink". In 2005, approximately 6550 $m^3$ (231 105 $ft^3$) were produced (C. Spence, Nelson Granite Ltd., personal communication, 2006).

**Nelson Granite Ltd**. continued production at their **Red Deer Lake quarry** (B) in 2005. The quarry is located near Red Deer Lake, approximately 40 km northeast of Kenora and 15 km northwest of the railway stop at Jones. A total of 2402 $m^3$ (84 759 $ft^3$) were produced for use as monument and building stone (C. Spence, Nelson Granite Ltd., personal communication, 2006). The stone is marketed as "Red Deer Brown" or "Canadian Mahogany" and is sold primarily to clients in North American markets.

**Nelson Granite Ltd**. continued to produce stone from their **Forgotten Lake quarry** (C) in 2005. The quarry is located on the east side of Forgotten Lake, approximately 35 km north of Kenora and 10 km north of the hamlet of Redditt. The quarry produced 2 colours: a green megacrystic granite marketed as "Pine Green" and a yellow megacrystic granite sold as "Crystal Gold".

**Nelson Granite Ltd**. continued production at their **Second Mountain quarry** (D) in 2005. The quarry is located approximately 3 km east of their Forgotten Lake quarry. The Forgotten and Second Mountain quarries produced 3076 $m^3$ (108 537 $ft^3$) of yellow granite (C. Spence, Nelson Granite Ltd., personal communication, 2006).

## Cold Spring Granite Canada Ltd.

**Cold Spring Granite Canada Ltd**. (E) continued seasonal production from their **Kenora Sage quarry**, during 2005. The quarry is located approximately 38 km north-northeast of Kenora. The quarry produced 2 colours: a green megacrystic granite marketed as "Green Sage", and a yellow megacrystic granite sold as "Crystal Gold". The quarry produced 719.4 $m^3$ (25 379.9 $ft^3$) of Green Sage and Crystal Gold (B. Odden, Cold Spring Granite Canada Ltd., personal communication, 2006).

**Cold Spring Granite Canada Ltd**. continued seasonal production at their **Havik Lake quarry** (F ) in 2005. The quarry is located approximately 34 km north-northeast of Kenora on the Jones Road. Production from the quarry was 279.3 $m^3$ (9852.7 $ft^3$) of reddish brown, porphyritic granite, which is sold under the name of "Royal Auburn" (B. Odden, Cold Spring Granite Canada Ltd., personal communication, 2006).

**Table 1.** Assessment files received in the Kenora District in 2005.

**Abbreviations**

| | | | |
|---|---|---|---|
| AEM | Airborne electromagnetic survey | Gr | Geological report |
| AM | Airborne magnetic survey | IP | Induced polarization survey |
| ARA | Airborne radiometric survey | Lc | Linecutting |
| DD | Diamond drilling | Pet | Petrology |
| DDH | Diamond drill hole(s) | Pr | Prospecting |
| DDR | Diamond drill hole re-logging | RES | Resistivity survey |
| GC | Geochemical survey | Samp | Sampling (other than bulk) |
| GEM | Ground electromagnetic survey | Str | Stripping |
| GL | Geological Survey | VLFEM | Very low frequency electromagnetic survey |
| GM | Ground magnetic survey | VLFEM | Very low frequency electromagnetic survey |

| Township or Area | Company Name | Year | Type of Work (Work Value) | AFRO Number | Resident Geologist Office File Designation | |
|---|---|---|---|---|---|---|
| Bad Vermilion Lake Area | Hexagon Gold Ltd. | 2005 | 10 DDH, Samp ($154,303) | 2.30701 | 52C10NE | HHH-5 |
| Bad Vermilion Lake Area | Pitkanen, R. | 2004 | Pr, Samp ($816) | 2.29123 | 52C10NE | M-9 |
| Bad Vermilion Lake Area | Reiter, M. | 2004-05 | Pr, Samp, GL, GR ($21,816) | 2.29807 | 52C10NE | JJJ-1 |
| Boyer Lake Area | Glatz, A. & Riives, J. | 2003 | Pr, Str, Samp, GL ($1,419) | 2.29507 | 52F07NE | NNN-1 |
| Boyer Lake Area | Glatz, A. & Riives, J. | 2005 | Pr, Str, GR ($1,257) | 2.29746 | 52F07NE | NNN-2 |
| Boyer Lake Area | Glatz, A. & Riives, J. | 2005 | Str, Samp, GR ($8,926) | 2.31024 | 52F07NE | NNN-3 |
| Boyer Lake Area | Temex Exploration Ltd. | 2004 | GL, Str, Samp, GC, GR ($32,900) | 2.29368 | 52F07NE | MMM-1 |
| Contact Bay Area | Glatz, A. & Riives, J. | 2004 | Pr, Samp, GR ($649) | 2.29386 | 52F10NW | F-5 |
| Dash Lake Area | Barton, B. | 2004 | Pr, Samp, GR ($411) | 2.28952 | 52F04SE | R-5 |
| Dash Lake Area | Chute, M. | 2005 | Pr, GL, Samp ($12,397) | 2.30758 | 52F04SE | S-5 |
| Dash Lake Area | Kings Bay Gold Corporation | 2005 | VLFEM, GM, Lc ($23,168) | 2.29759 | 52F04SE | T-1 |

| Township or Area | Company Name | Year | Type of Work (Work Value) | AFRO Number | Resident Geologist Office File Designation | |
|---|---|---|---|---|---|---|
| Dogpaw Lake Area | Anyox Metal Ltd. | 1983 | GL, GR (donated) | | 52F05SW | NNNN-4 |
| Dogpaw Lake Area | Endurance Gold Corporation | 2005 | Pr, Samp, GC, GL ($104,787) | 2.30695 | 52F05SW | MMMM-5 |
| Dogpaw Lake Area | Metalore Resources Ltd. | 2004 | 14 DDH, Samp ($226,528) | 2.30409 | 52F05SW | LLLL-5 |
| Drayton Township | 1179785 Ontario Ltd. | 2004 | Pr, Lc, GL, Samp, GR ($35,831) | 2.28421 | 52J04SW | 38 |
| Eagle Rock Lake Area | Champion Bear Resources Ltd. | 2005 | AM, ARA ($27,365) | 2.30418 | 52F02NE | D-8 |
| Eagle Rock Lake Area | Champion Bear Resources Ltd. | 2005 | DDR, Samp ($29,810) | 2.30767 | 52F02NE | D-9 |
| Echo Township | Atikwa Minerals Ltd. | 2004 | Pr, Samp, Str, GL, GR ($8,915) | 2.28732 | 52F16NW | 103 |
| Ewart Township | Cabo Mining Enterprises Corp. | 2005 | 1 DD, GR ($21,261) | 2.29610 | 52E11NE | BBB-1 |
| Fourbay Lake Area | Conquest Resources Ltd. | 2005 | 7 DDH ($279,966) | 2.30215 | 52J02SW | 107 |
| Fourbay Lake Area | Savant Lake Minerals | 2004 | GEM, GM, GR ($16,135) | 2.28861 | 52J02SW | 106 |
| Garnet Bay Area | Emerald Field Resources Corp. | 2005 | GL, GR ($1,597) | 2.30723 | 52F11NW | Z-5 |
| Glass Township | Amador Gold Corp. | 2004 | 1 DD ($8,500) | 2.29189 | 52E10SW | EEE-1 |
| Glass Township | Amador Gold Corp. | 2005 | IP, RES, GR, Lc ($26,550) | 2.30745 | 52E10SW | EEE-2 |
| Halkirk Township | Cousineau, L. | 2002-03 | Pr, Samp, GL, Pet ($11,349) | 2.28349 | 52C11NE | G-13 |
| Halkirk Township | Cousineau, L. | 2003-04 | Pr, Samp ($4,821) | 2.28993 | 52C11NE | G-14 |
| Halkirk Township | Cousineau, L. | 2004 | Pr, Str, Samp ($5,348) | 2.28894 | 52C11NE | G-15 |
| Halkirk Township | Cousineau, L. | 2004 | Pr, Str, Samp ($4,639) | 2.28919 | 52C11NE | G-16 |
| Halkirk Township | Cousineau, L. | 2004 | Pr, Samp, Str ($10,551) | 2.29978 | 52C11NE | G-17 |
| Halkirk Township | Cousineau, L. | 2005 | Pr, Samp, Str ($19,206) | 2.29763 | 52C11NE | G-18 |
| Halkirk Township | Cousineau, L. | 2004 | Pr, Str, Samp ($10,052) | 2.28881 | 52C10NW | U-22 |
| Halkirk Township | Cousineau, L. | 2004 | Pr, Str ($2,240) | 2.28891 | 52C10NW | U-23 |
| Halkirk Township | MetalCORP Limited | 2005 | AEM, AM ($46,865) | 2.30445 | 52C11NE | BBB-1 |
| Lobstick Bay Area | Biczok, J. | 2004 | AEM, AM, GL, Samp, GR ($2,461) | 2.28658 | 52F05NW | CC-1 |

| Township or Area | Company Name | Year | Type of Work (Work Value) | AFRO Number | Resident Geologist Office File Designation | |
|---|---|---|---|---|---|---|
| Lobstick Bay Area | Cabo Mining Enterprises Corp. | 2004 | Pr. Samp. GL, GM, Str ($34,669) | 2.29581 | 52F05NW | BB-2 |
| Lobstick Bay Area | Cabo Mining Enterprises Corp. | 2005 | 1 DD ($11,950) | 2.30322 | 52F05NW | BB-3 |
| Lower Manitou Lake Area | Bjorkman, K. | 2004 | Pr. Samp. GR ($9,312) | 2.29062 | 52F07SW | KK-1 |
| Mang Lake Area | Temex Exploration Ltd. | 2004 | GL, Samp, Str, GC, GR ($30,345) | 2.29370 | 52F02NW | H-1 |
| Manross Township | Norontex Exploration Ltd. | 1983 | GL, GR (donated) | | 52E09SW | W-1 |
| Menary Township | McNerney, B. | 2005 | Pr, Str, Samp ($11,647) | 2.30589 | 52C13NW | P-1 |
| Napanee Lake Area | Temex Exploration Ltd. | 2004 | GL, Samp, Str, GC, GR ($23,500) | 2.29366 | 52F03NE | BB-1 |
| Parnes Lake Area | Glatz, A. & Riives, J. | 2004 | Pr, Str, Samp, GR ($14,509) | 2.28901 | 52G13NW | 41 |
| Patterson Lake Area | Angus and Ross Canada Ltd. | 2004 | 3 DDH, Samp, GR ($41,627) | 2.29033 | 52L07SE | T-2 |
| Penassi Lake Area | Unitronix Corporation | 2004 | Pr, Samp, GL ($104,102) | 2.29269 | 52G14NE | 64 |
| Rowan Lake Area | Johnson, S. & Prouty, K. | 2005 | Pr, Samp, GR, Str ($2,203) | 2.30887 | 52F05SE | YYY-1 |
| Sakwite Lake Area | Angove, R. | 2005 | Pr, Lc, GR ($2,500) | 2.30560 | 52F02SW | D-1 |
| Snowshoe Bay Area | Halo Resources Ltd. | 2005 | AEM, AM ($92,112) | 2.30788 | 52E11SE | W-1 |
| Tabor Lake Area | Norontex Exploration Ltd. | 1987 | GL, GR (donated) | | 52F09SW | FF-1 |
| Vista Lake Area | Angove, R. | 2005 | Pr, GR ($3,049) | 2.30616 | 52F03SE | E-2 |
| Vista Lake Area | Angove, R. | 2005 | Pr, Samp, GR ($2,132) | 2.30655 | 52F03SE | E-3 |
| Vista Lake Area | Angove, R. | 2005 | Pr, Samp, GR ($2,172) | 2.30667 | 52F03SE | E-4 |
| Webb Township | Stuarton Resources Ltd. | 2003-04 | Pr, Samp, GC, Pet ($19,170) | 2.29972 | 52F16NW | 104 |
| Webb Township | Stuarton Resources Ltd. | 2005 | GEM ($17,600) | 2.29968 | 52F16NW | 105 |
| Zealand Township | True North Gems | 2003-04 | Pr, Str, Samp, GL ($48,921) | 2.29541 | 52F15SE | HH-1 |

# EXPLORATION ACTIVITY

A complete summary of exploration activity, including prospecting, is given in Table 2. The extent of staking is shown in Figure 1. Gold, base metals and stone were the predominant targets in 2005. At least 3 new exploration projects in the District are the result of the acquisition of dormant mineral prospects. Increased market values for molybdenum and uranium have resulted in staking of prospective ground for these commodities in the District. Described below are programs with significant exploration expenditures and/or known results. Programs are keyed with numbers to Table 2 and Figure 2. Exploration information included in this section is taken from assessment files in the Kenora District office, unless otherwise indicated.

## Gold

**Cabo Mining Enterprises Corp**. continued work on the Electrum Lake property located in the High Lake area, approximately 45 km west of Kenora. Eight diamond-drill holes, totalling 957.85 m tested gold mineralization at the Arsenic Zone and 3 other sulphide zones on the property (Cabo Mining Enterprises Corp., press release, November 25, 2005).

**Cabo Mining Enterprises Corp**. initiated an exploration program on the Hope Lake property located in the Lobstick Bay area, approximately 65 km southeast of Kenora. Mechanical stripping, reconnaissance geological mapping and a ground magnetometer survey were completed on the Mushkawa and Porphyry Zones. Nine diamond-drill holes, totalling 1050 m, were completed on the gold-bearing zones (Cabo Mining Enterprises Corp., press release, November 25, 2005).

**Champion Bear Resources Ltd.** continued exploration on the Plomp Farm property located approximately 17 km west of Dryden. In 2005, a total of 13 756 m of core from 23 previous drilled holes were re-logged and sampled. Champion Bear has defined a westward plunge to mineral zonation and alteration patterns on the property. Results from a nine-hole diamond-drill program extended the geochemical alteration envelope and anomalous gold mineralization along a 1200 m strike length (Champion Bear Resources Ltd., press release, June 1, 2005). Ground magnetic and induced polarization surveys were completed on the property. Interpretation of the response from the ground magnetic survey confirmed the extension of the mineralized horizon over a distance of 4 km, across the entire length of the Plomp Farm Property (Champion Bear Resources Ltd., press release, September 14, 2005).

**Conquest Resources Limited** initiated an exploration program to locate the source of high-grade gold-bearing blue-black quartz float, found on the south shore of King Bay. The property is located approximately 25 km south of the hamlet of Savant Lake, on the northern part of Sturgeon Lake. In 2005, a diamond-drill program was attempted to evaluate 6 magnetic anomalies believed to represent breccia pipes within quartz feldspar porphyry bodies. The breccia pipes could be the source of the gold-bearing float. The 6 magnetic anomalies are the result of a ground magnetic survey completed in 2004 on the ice over the water of King Bay. Due to deteriorated ice conditions only 2 of the 6 anomalies were tested by 7 diamond-drill holes (Conquest Resources Limited, press release, March 24, 2005).

**Endurance Gold Corporation** continued work on their Dogpaw Lake property located approximately 25 km southeast of Sioux Narrows. Geological mapping, humus sampling and prospecting targeted mineralized zones related to the Stephen Lake Stock. Gold mineralization is reported to be associated with fractures and lineaments at the Starlyght and Jest showings (Endurance Gold Corp., press release, November 10, 2005).

**Halo Resources Ltd**. conducted an aggressive exploration program on the Duport Gold Property located in the Shoal Lake area, approximately 45 km southwest of Kenora. A surface exploration program consisting of grid establishment, ground geophysical surveys and diamond drilling was initiated on the ice near the Duport Deposit. Twenty-three drill holes, totalling 7090 m, were completed in 2005, but deteriorating ice conditions prevented the completion of the full diamond-drill program. Twenty significant gold intersections from the drill program returned an average intercept of 13 g/t Au over 1.4 m. Drill core samples from the South Main Lens returned 20.2 g/t Au over 3.4 m and 7.37 g/t Au over 2.25 m (Halo Resources Ltd., press release, May 12, 2005).

An indicated mineral resource of 424 000 tonnes at 13.4 g/t Au and an inferred resource of 387 000 tonnes at 10.7 g/t Au have been determined by a scoping study completed by Roscoe Postle Associates Inc. on the Duport Deposit (Halo Resources Ltd., press release, August 9, 2005). In September 2005, Halo completed a helicopter-supported airborne magnetometer and electromagnetic survey over the property. Additional drilling is planned in 2006 to test airborne anomalies and conductors identified from this 50 m line-spacing, 2750 line-kilometres survey (Halo Resources Ltd., press release, September 26, 2005).

On March 2005, **Mengold Resources Inc.** optioned the Needle Lake property located approximately 30 km northeast of Dryden. A grid was established followed by a ground geophysical survey and a five-hole diamond-drill program to evaluate the massive sulphide mineralization potential on the property (Mengold Resources Inc., press release, June 27, 2005).

**Houston Lake Mining Inc**. announced a preliminary inferred mineral resource of 106 400 tonnes at 2.97 g/t Au for the Angel Hill Gold Zone. This zone is part of the Cedartree Gold Project, located approximately 20 km southeast of the hamlet of Sioux Narrows. A vertically oriented percussion drill hole sampling program was initiated in 3 areas on the Angel Hill Gold Zone. Results from 235 percussion drill samples returned a significant including one intercept of 479 g/t Au over 1.22 m. The analytical results of these samples will provide preliminary grade control for a planned 1000 tonne bulk sample (Houston Lake Mining Inc., press release, December 6, 2005).

**Q-Gold Resources Ltd**. completed a reverse take-over transaction and initiated an exploration program on the Mine Centre property. The property, which includes the Foley and Golden Star gold prospects, is located in the Bad Vermillion Lake area, approximately 55 km east of Fort Frances. Six quartz veins comprising the Foley Mine Vein Complex were mechanically stripped, channel cut and sampled. Ten holes, totalling 1576 m, were drilled on the Complex in 2005. A 1.5 m section of core, with visible gold, returned 53.47 g/t Au (Q-Gold Resources Ltd., press release, November 22, 2005).

**Rainy River Resources Ltd.** completed the acquisition of the Rainy River property from Nuinsco Resources Limited in 2005. The property is located in Richardson Township, approximately 55 km northwest of Fort Frances. The #17 Gold Zone on the property has indicated resources of 1.736 Mt of 1.558 g/t Au and an inferred resource of 11.025 Mt grading 1.329 g/t Au (Rainy River Resources Ltd., press release, December 5, 2005). An extensive digital compilation of previous exploration data was completed in 2005. Selected drill holes from past exploration programs are been re-logged and sampled.

Re-interpretation of mineralizing events related to the #17 Gold Zone, based on structural mapping and drill core intersections, has established that high-grade zones could plunge to the southwest. Twelve diamond-drill holes were completed in 2005 focussing on the #17 Gold Zone. Significant intersections, related to the down-plunge extension of the zone, from drill hole NR05-05 are 2.21g/t Au over 69.95 m and 13.5 m grading 5.34 g/t Au. Six diamond-drill holes targeted similar mineralizing events at the 433 Gold Zone. Samples of core that contain coarse visible gold in fractures returned up to 1000 g/t Au and 294 g/t Ag. Additional diamond drilling is planned to test the down-plunge extension of the high-grade areas of the #17 and 433 zones (Rainy River Resources Ltd., press release, January 5, 2006).

In 2005, 104 reverse circulation holes were completed. Five diamond-drill holes tested highly anomalous gold dispersal trains discovered by the reverse circulation program. The Beaver Pond and West zones, interpreted as a northwest extension of the #17 Gold Zone were discovered by this drill program. This 3.0 km northwest-trending anomalous area, which includes the #17 Zone, is known as the #17 Gold Trend (Rainy River Resources Ltd., press release, December 7, 2005).

During the fourth quarter of 2005, Rainy River Resources Ltd. increased their land holdings near the Off Lake area. This area, part of the Rainy River Project, is located approximately 16 km northeast of Richardson Township. Grab samples from a reconnaissance sampling program returned values up to 2.04 g/t Au and 4.0% Zn. A helicopter-supported airborne magnetometer and electromagnetic survey is planned for 2006 (Rainy River Resources Ltd., press release, December 12, 2005).

**Table 2.** Exploration activity in the Kenora District in 2005. Locations shown on Figure 2.

**Abbreviations**

| | | | |
|---|---|---|---|
| AEM | Airborne electromagnetic survey | GM | Ground magnetic survey |
| AM | Airborne magnetic survey | IP | Induced polarization survey |
| ARA | Airborne radiometric survey | Lc | Linecutting |
| ARR | Airborne response research | MRE | Mineral Resource Estimate |
| Comp | Compilation | ODH | Overburden drill hole(s) |
| DDG | Downhole geophysical surveys | PDH | Percussion drill hole(s) |
| DDH | Diamond drill hole(s) | Pr | Prospecting |
| DDR | Diamond drill hole(s) re-logging | Samp | Sampling (other than bulk) |
| GC | Geochemical survey | Str | Stripping |
| GEM | Ground electromagnetic survey | Tr | Trenching |
| GL | Geological Survey | VLFEM | Very low frequency electromagnetic survey |

| No | Company/Individual (Occurrence Name) or Property | Township/Area (Commodity) | Exploration Activity |
|---|---|---|---|
| 1 | Amador Gold Corp. (KPM Property) | Glass Township (Au, Cu) | Lc, GEM, IP |
| 2 | Amador Gold Corp. (Mennin Lake Property) | Kawashegamuk Lake Area (Mo) | Pr, Samp |
| 3 | Angove, R. (Smoothrock Lake Occurrence) | Sakwite Lake Area (Au) | Pr, Samp |
| 4 | Angove, R., Kulp, J & Sutyor, F. (Claim 1218691 Property) | Vista Lake Area (Au) | Pr, Samp |
| 5 | Avalon Ventures Ltd. (U6 Savant Property) | Conant Township (Au, Cu, Zn) | GL, Samp, Comp |
| 6 | Avalon Ventures Ltd. (Big Whopper Deposit) | Patterson Lake Area (Li, Cs, Rb, Ta) | MRE, Samp |
| 7 | Blackstone Ventures Ltd. (Kenbridge Mine) | Atikwa Lake Area (Ni, Cu, Co, PGEs) | AEM, DDH 21-4300m, GEM, Samp, Lc |
| 8 | Cabo Mining Enterprises Corp. (Electrum Lake Property) | Ewart Township (Au) | DDH 8-957m, Samp |
| 9 | Cabo Mining Enterprises Corp. (Hope Lake Property) | Lobstick Bay Area (Au) | DDH 9-1050m, GL, GEM, Str, Lc |
| 10 | Champion Bear Resources Ltd. (Plomp Farm Property) | Aubrey Township (Au) | DDH 9-2790m, Lc, GM, IP, Samp, DDR 35DDH-13.756m, Comp, GL |
| 11 | Champion Bear Resources Ltd. (Eagle Rock Property) | Eagle Rock Lake Area (PGE, Au) | ARA, AM, GL, GM, Samp |
| 12 | Chute, M. (Dash Lake Property) | Dash Lake Area (Au, Ag, Cu, Zn) | Comp, GL, Pr, Samp |
| 13 | Conquest Resources Ltd. (King's Bay Gold Property) | Fourbay Lake Area (Au) | DDH 7-869m, Lc, Samp |
| 14 | Cousineau, L., Cousineau, R. & Desjardin, K. (Belacoma Property) | Halkirk Township (Cu, Au, PGE) | Pr, Samp |
| 15 | Cousineau, L., Cousineau, R. & Desjardin, K. (Halkirk Soapstone Property) | Halkirk Township (Stone) | Pr, Str, Samp |
| 16 | Cyrari Capital Corporation (Menary Property) | Dash Lake Area (Au) | GL, Str, Pr, Samp |
| 17 | Emerald Field Resources Corp. (Scarp Lake property | Line Lake Area (Cu, Ag, Au) | DD 4-250m, Samp, Pr |

| No | Company/Individual (Occurrence Name) or Property | Township/Area (Commodity) | Exploration Activity |
|---|---|---|---|
| 18 | Emerald Field Resources Corp. (St. Anthony Property) | Squaw Lake Area (Au) | DD 4-250m, GL, Str, Lc, Samp, Pr |
| 19 | Endurance Gold Corporation (Dogpaw Lake Property) | Dogpaw Lake Area (Au, Mo) | GL, GC, Lc, Samp |
| 20 | Equator Mining Corp. (Sturgeon Lake Property) | Squaw Lake Area (Au) | Comp, ARR, Samp |
| 21 | Glatz, A. (McLeod Property) | Redvers Township (Mo) | Pr, Samp |
| 22 | Glatz, A. & Riives, J. (Thundercloud Lake Property) | Boyer Lake Area (Au) | Pr, Str, Samp |
| 23 | Glatz, A., Riives, J. & Woitowicz, M. (Carleton Lake Property) | Lower Manitou Lake Area (Au) | Pr, Samp |
| 24 | Halo Resources Ltd. (Duport Gold Property) | Snowshoe Bay Area (Au) | DDH 23-7054m, AEM, AM, Samp, Lc, GM, Comp, MRE |
| 25 | Hinterland Metals Inc. (Cu-Ni-Precious Metal Property | Revell Township (Cu, Ni, Au, PGE) | GL, Samp |
| 26 | Houston Lake Mining Inc. (West Cedartree Gold Property) | Dogpaw Lake Area (Au) | Comp, Bulk-1000 tonnes, PDH 3-13.5m, Samp |
| 27 | King's Bay Gold Corporation (Dash Lake Property) | Dash Lake Area (Au) | GM, VLFEM, Lc |
| 28 | King's Bay Gold Corporation (Helena Lake Property) | Dash Lake Area (Au) | GM, VLFEM, Lc |
| 29 | King's Bay Gold Corporation (Sturgeon–Skaw Lake Project) | Squaw Lake Area (Au) | Comp, Samp |
| 30 | Mengold Resources Inc. (Needle Lake Property) | McIlraith Township (Au, Cu, Zn) | DDH 5-750m, GEM, Samp |
| 31 | MetalCORP Ltd. (North Rock Copper-Nickel Property) | Halkirk Township (Cu, Ni, PGE) | DDH 14-3906m, AEM, AM, GL, Comp, Samp |
| 32 | Metalore Resources Ltd. (East Cedartree Lake Property) | Dogpaw Lake Area (Au) | GEM |
| 33 | Nelson Granite Ltd. (Redditt "Bimini" Property) | Redditt Township (Stone) | Samp |
| 34 | Nelson Granite Ltd. (Sand Lake Property) | Swan Lake Area (Stone) | Samp |
| 35 | NuMax Resources Inc. (Westco Property) | Bliss Lake Area (Cu, PGE) | GL, Str, Samp |
| 36 | Opawica Explorations Inc. (Atikwa Lake Cu-Au Property) | Atikwa Lake Area (Au, Cu) | DDH 16–2364m, DDG, Comp, Samp |
| 37 | Porter, C. & Gillis, S. (Greenridge Property) | Brownridge Township (Beryl, Mo) | Pr, Samp |
| 38 | Q-Gold Resources Ltd. (Mine Centre Gold Property) | Bad Vermilion Lake Area (Au) | DDH 10-1532m, Str, Tr, Samp, Comp |
| 39 | Radisson Mining Resources Inc. (Highway Property) | Vista Lake Area (Mo) | Pr, Samp |
| 40 | Rainy River Resources Ltd. (Rainy River Property) | Richardson Township (Au, Cu, Zn, PGE) | ODH 104, Comp, DDR, DDH 17-3820m, Samp |
| 41 | Rainy River Resources Ltd. (Off Lake Property) | Senn Township (Au) | Pr, Samp |

| No | Company/Individual (Occurrence Name) or Property | Township/Area (Commodity) | Exploration Activity |
|---|---|---|---|
| 42 | Riives, J. & Glatz, A. (Mosher Bay Property) | Boyer Lake Area (Au) | Pr. Str. Samp |
| 43 | Rio Fortuna Exploration Corp. (Drayton Gold Property) | Drayton Township (Au, Cu) | GL, Pr. Samp |
| 44 | RJK Explorations Ltd. (Savant Lake Property) | Boucher Township (Cu, Zn) | DD 4-472.9 m, Samp |
| 45 | Rubicon Minerals Corporation (Gold Rock Property) | Harper Lake Area (Au) | Pr. Samp |
| 46 | Ryznar, T. (Straw Lake Beach Property) | Bluffpoint Lake Area (Au) | Pr. Samp |
| 47 | Solitaire Minerals Corp. (Lateral Lake Mo Property) | Webb & Echo townships (Mo) | Pr. Samp |
| 48 | Sutyor, F. (Claim 1218355 Property) | Vista Lake Area (Au) | Pr. Samp |
| 49 | Western Warrior Resources Inc. (Eagle Lake Property) | Buchan Bay Area (Au, Cu, Zn) | GL, Pr, Lc, Samp |
| 50 | Western Warrior Resources Inc. (Warclub Lake Property) | Fisher Lake Area (Au, Cu, Zn) | Pr. Samp |

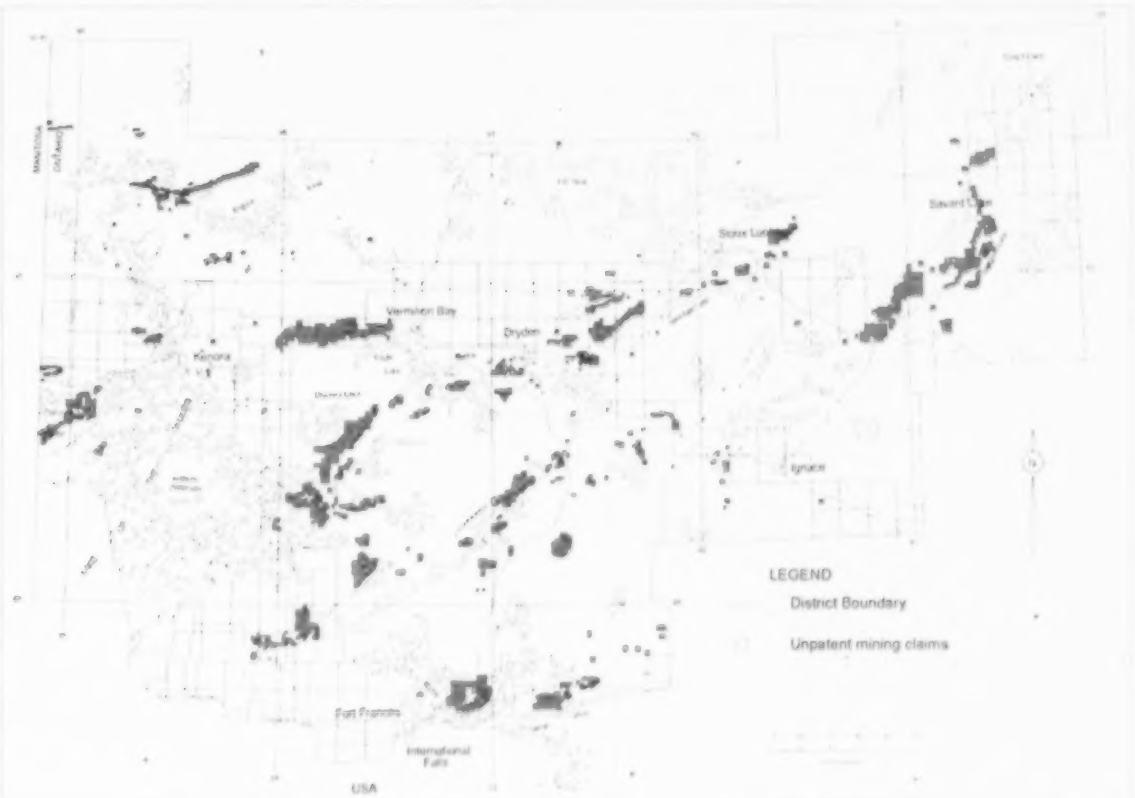


**Figure 1.** Extent of staking in the Kenora District as of December 31, 2005.

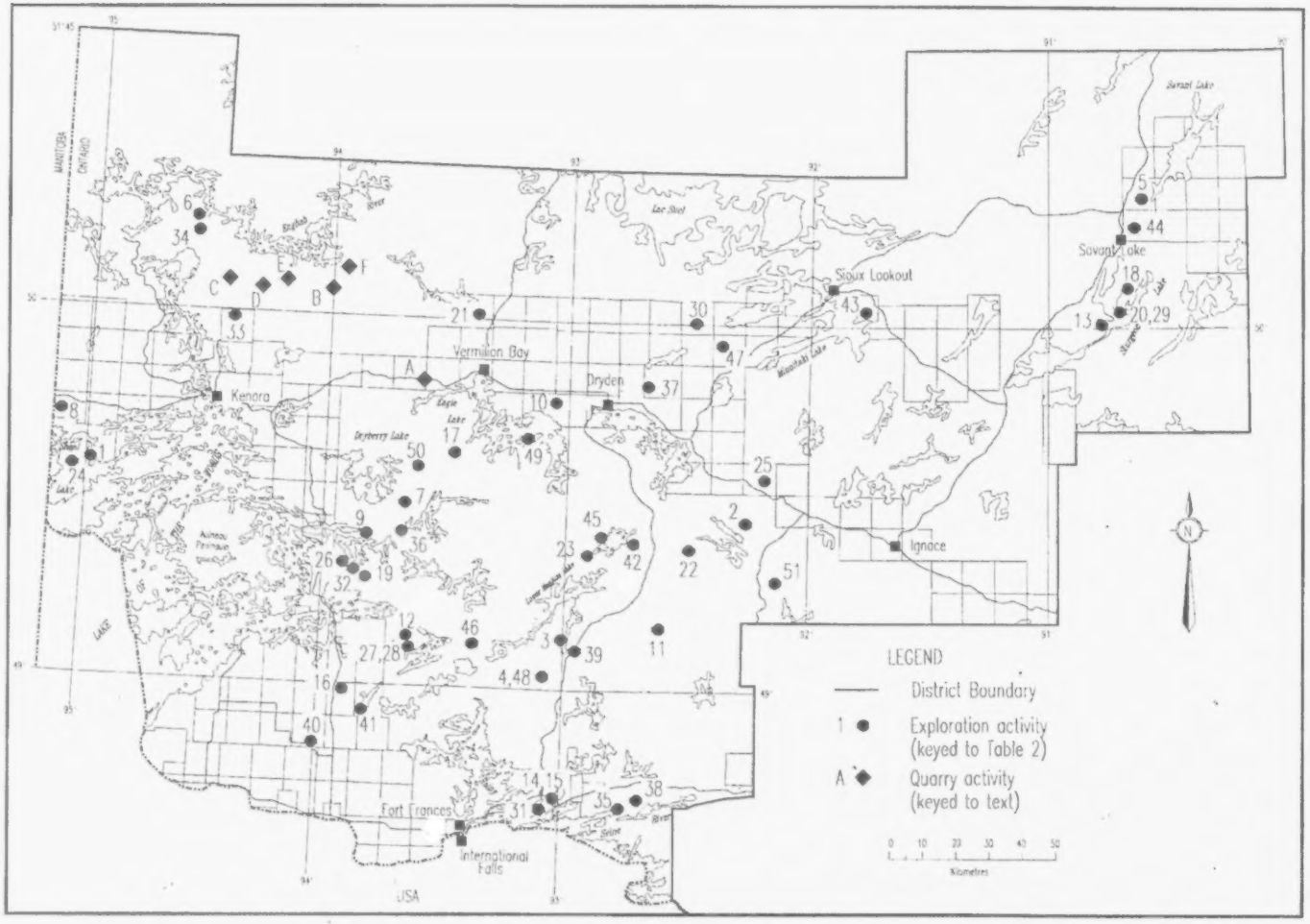


**Figure 2.** Exploration and quarry activity in the Kenora District in 2005. Locations listed in Table 2.

## Base Metals

In March 2005, **Blackstone Ventures Ltd.** entered into an agreement with Falconbridge Limited to purchase the Kenbridge property. The property is located 70 km east-southeast of Kenora. A historical mineral resource on the Kenbridge Deposit is 2 705 000 tonnes grading 1.05% Ni and 0.54% Cu to a depth of 610 m (Blackstone Ventures Ltd., press release, November 28, 2005). Mineralization is hosted in brecciated mafic intrusive rocks. A compilation of past exploration results, a ground electromagnetic survey and 2 phases of diamond drilling have been conducted on the property in 2005. The diamond-drill programs were designed to verify historical mineralization grades, extend 50 m spaced piercing-points of mineralized zone, determine grades of cobalt and platinum group metals, and collect samples for metallurgical testing (Blackstone Ventures Ltd., press release, November 28, 2005).

**MetalCORP Limited** commenced exploration work on the North Rock Copper Nickel property, located in Halkirk Township, approximately 25 km east of Fort Frances. Historical mineral reserves of the Beaver Pond Zone are 1 025 500 tons grading 1.2% Cu. In January 2005, MetalCORP completed an airborne magnetometer and electromagnetic survey over the property. Approximately 30 new mineral showings, related to the interpretative airborne anomalies and conductors, were discovered as a result of a summer mapping and prospecting program. A second phase of exploration work is planned to evaluate the numerous mineral showings on the property (MetalCORP Limited, press release, October 13, 2005).

A fourteen-hole diamond-drill program, totalling 3906 m, confirmed the depth extension of the copper zone at the Beaver Pond and Main South zones. Drilling intersected a new PGM zone adjacent to the copper zone. The PGM zone has been traced by drilling for approximately 500 m along strike and to a depth of 200 m. Significant assay results from this zone include 0.2% Cu, 3.7 g/t Pt and 7.1 g/t Pd over 0.8 m (MetalCORP Limited, press release, August 25, 2005).

In the fourth quarter of 2005, MetalCORP announced it had entered into an option agreement to acquire the Cousineau property. This property, located northeast and adjacent to the North Rock Property, covers the possible extension of the mineralized zones (MetalCORP Limited, press release, October 13, 2005).

In September 2005, **Opawica Explorations Inc**. entered into an option agreement with Maybrun Mines Limited to acquire up to 100% interest in the Atikwa Lake Gold-Copper property. The property is located in the Atikwa Lake area, approximately 70 km southeast of Kenora. The initial eleven-hole diamond-drill program targeted high gold values associated with historical drill-hole intersections. Significant intersections from drill hole OPW-6 of the 2005 program are 5.0 g/t Au and 2.64% Cu over 9.85 m and 10 m grading 2.8 g/t Au and 5.4% Cu. Based upon significant mineralized intersections, a second phase drill program commenced in the fourth quarter of 2005 (Opawica Explorations Inc., press release, December 9, 2005).

## Stone

**Nelson Granite Ltd**. conducted exploration programs on 2 areas north of Kenora. Physical testing on 450 tonnes of white-grey monzodiorite stone called Bimini was completed on the Redditt test site. This site is located near the hamlet of Redditt, approximately 25 km north of Kenora. The second area examined, Sand Lake, is located 55 km north of Kenora. The quality of stone from the Sand Lake site was tested by sample drilling, diamond saw cutting and removal of large blocks from 2 areas (G. Zebruck, Nelson Granite Ltd., personal communication, January 2005).

# KENORA DISTRICT STAFF AND ACTIVITIES

The Kenora office was staffed by C. Ravnaas, District Geologist; A. Raoul, District Support Geologist; and J. McDonald, summer assistant (Summer Experience Program). P. Hinz accepted the Thunder Bay-based Regional Land Use Geologist position during the first quarter of 2005.

Kenora staff attended the following conferences and symposia:

- the Prospectors and Developers of Canada Convention in Toronto in March, where a Northwestern Ontario regional display was staffed;
- a poster and oral presentation highlighting activities and prospects available for option in the district were presented at the Northwestern Ontario Mines and Minerals Symposium held in Thunder Bay in April;
- the Manitoba Mining and Minerals Convention held in Winnipeg, Manitoba in November; and
- the Ontario Exploration and Geoscience Symposium, sponsored by the Ontario Prospector's Association, in Toronto in December, where a poster highlighting activities in northwest Ontario and a provincial Recommendations for Exploration poster were staffed.

In addition to these events, staff organized or participated in

- Two Kenora elementary school geology tours
- Kejick Elementary First Nation geology information session;
- NRVIS-MDI training in Thunder Bay
- Red Lake mineralization related surface alteration tour; and
- the Dryden High School Conservation Course

In 2005, a total of 38 property visits were conducted by Kenora District Office staff (Table 3 and Figure 3).

**Table 3.** Property visits conducted by the Kenora District Geologists in 2005. Locations are keyed to Figure 3.

| Number | Client – Occurrence |
|---|---|
| 1 | Apex occurrence |
| 2 | Atikwa area mafic volcanic rocks |
| 3 | Big Master prospect |
| 4 | Big Whopper Deposit |
| 5 | Blackstone Ventures Ltd. – Kenbridge Mine |
| 6 | Cabo Mining Enterprise Corp. – Mushkawa Lake occurrence |
| 7 | Cabo Mining Enterprises Corp. – Porphyry Lake occurrence |
| 8 | Canamerica E.F prospect |
| 9 | Champion Bear Resources – Plomp Farm occurrence |
| 10 | Cousineau Brothers – Belacoma occurrence |
| 11 | Dubenski prospect |
| 12 | Glatz, A. and Riives, J. – Armstrong occurrence |
| 13 | Goldlund Mine |
| 14 | Houston Lake Mining Inc. – Angel Hill gold occurrence |
| 15 | Houston Lake Mining Inc. – MacLennan gold occurrence |
| 16 | Johnston, S. – Obee1 molybdenum occurrence |
| 17 | Leuiller Island gold occurrence |
| 18 | Markle - MacEwan molybdenum occurrence |
| 19 | Maybrun Mine |
| 20 | Metalore Resources Ltd. – East Cedartree occurrence |
| 21 | Mulcahy occurrence |
| 22 | Nelson Granite Ltd. – Chesapeake stone test site |
| 23 | Nelson Granite Ltd. – Forgotten Lake quarry |
| 24 | Nelson Granite Ltd. – Redditt stone test site |
| 25 | Nelson Granite Ltd. – Sand Lake stone test site |
| 26 | Nelson Granite Ltd. – Second Mountain quarry |
| 27 | Nickel Lake Station molybdenum occurrence |
| 28 | Nipigon Gold Resources Limited – McKenzie Grey prospect |
| 29 | NuMax Resources Inc. – Seine Bay showing |
| 30 | Opawica Exploration Ltd. – Atikwa Lake copper-gold drill-core storage site |
| 31 | Porter, C. and Gillis, S. – Greenridge beryl-molybdenum occurrence |
| 32 | Rainy River Resources Ltd. – #17 gold prospect |
| 33 | Redvers Township Intrusion |
| 34 | Ryznar, T. – Straw Lake Beach Mine |
| 35 | Tak felsic intrusion |
| 36 | Wetelainin, H. – Bending Lake prospect |
| 37 | Windfall occurrence |
| 38 | Zig Zag Island occurrence |

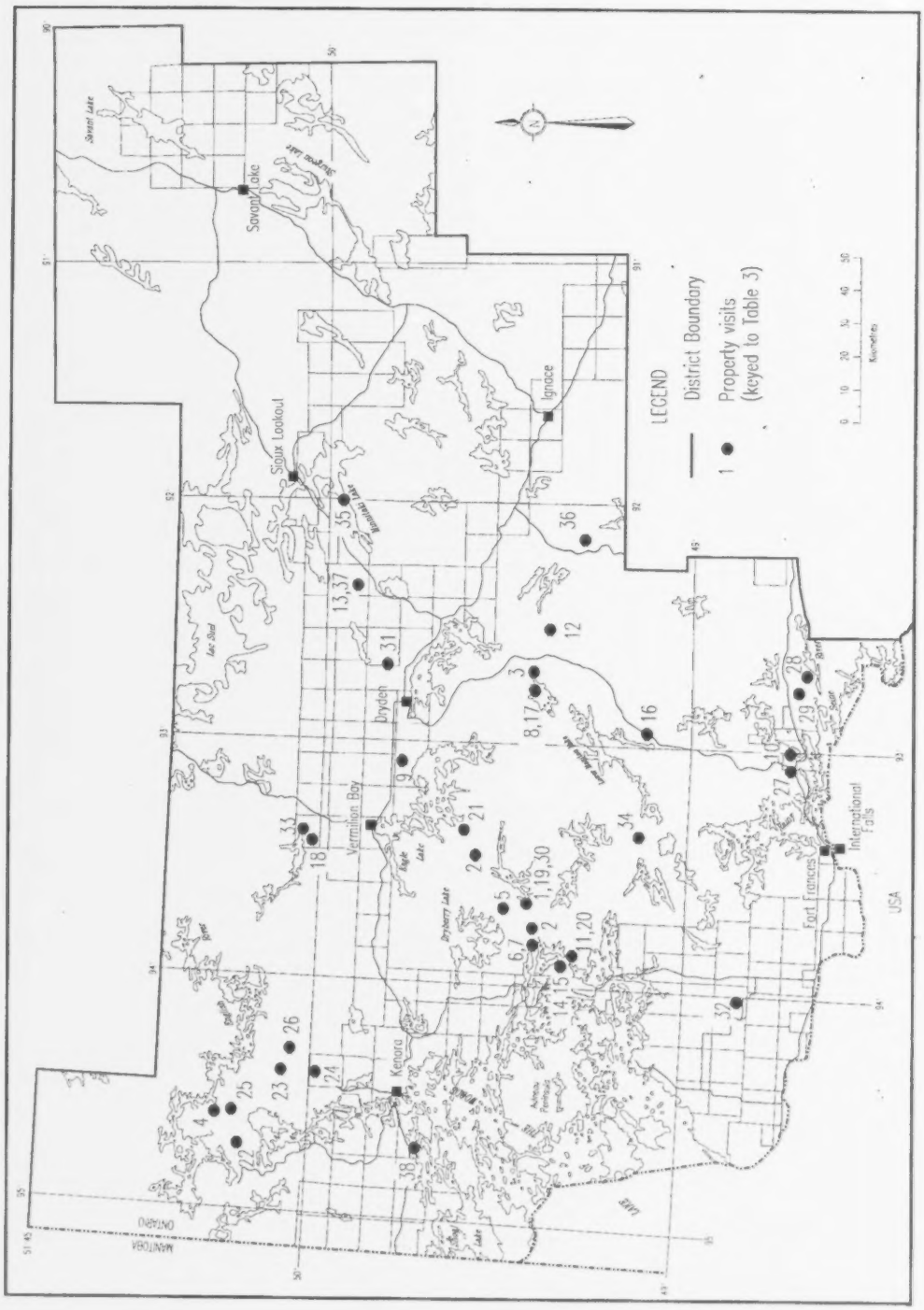


**Figure 3.** Property visits conducted in the Kenora District in 2005.

# PROPERTY VISITS

Major authorship for the following property visits is indicated in parentheses following the title. All Universal Transverse Mercator (UTM) co-ordinates are in North American Datum 1983 (NAD83), Zone 15. Analytical values presented in tables and text, unless indicated otherwise, was processed through the Geoscience Laboratories (Geo Labs), Ontario Geological Survey, in Sudbury.

## The Leuiller Island Occurrence (C. Ravnaas)

The Leuiller Island occurrence is located approximately 50 km south of the City of Dryden. Leuiller Island is situated in the northern part of Upper Manitou Lake. Access to Upper Manitou Lake is gained by an all-terrain vehicle (ATV) trail that departs from Highway 502. Travel on Upper Manitou Lake is via watercraft.

Leuiller Island is underlain by rocks that comprise the Upper Manitou Lake assemblage, which is part of the Eagle–Wabigoon–Manitou lakes greenstone belt (Blackburn 1982). A majority of gold occurrences in the Upper Manitou Lake area are controlled by northeast-trending shear and fracture zones. Parker (1989, p.109) describes mineralizing events as "gold-bearing quartz veins hosted by sheared and fractured felsic sills and dikes, metavolcanics rocks, and along dike/sill–metavolcanic contacts." The northeast-trending Manitou Anticlinal Axis is a prominent structural feature in the Upper Manitou Lake area (Blackburn 1982). The axial plane of this anticline traverses the central part of Leuiller Island. Figure 4 illustrates the location of the anticline and the area examined during this visit.

Canamerica Precious Metals Inc. conducted an extensive exploration program in the Upper Manitou Lake area in the mid-1980s. A majority of the exploration efforts by this company concentrated on the peninsula that separates Manitou Straits from Upper Manitou Lake. The only documented exploration work performed on Leuiller Island was by Canamerica during this program. Several strained and altered zones were discovered during their bedrock mapping on Leuiller Island. These zone are more abundant and are larger in size near the southern part of the island. Grab samples of altered mafic rocks related to these zones, during this program, returned up to 18.24 g/t Au (Kenora District Office, assessment files, 52F/07SW X-4).

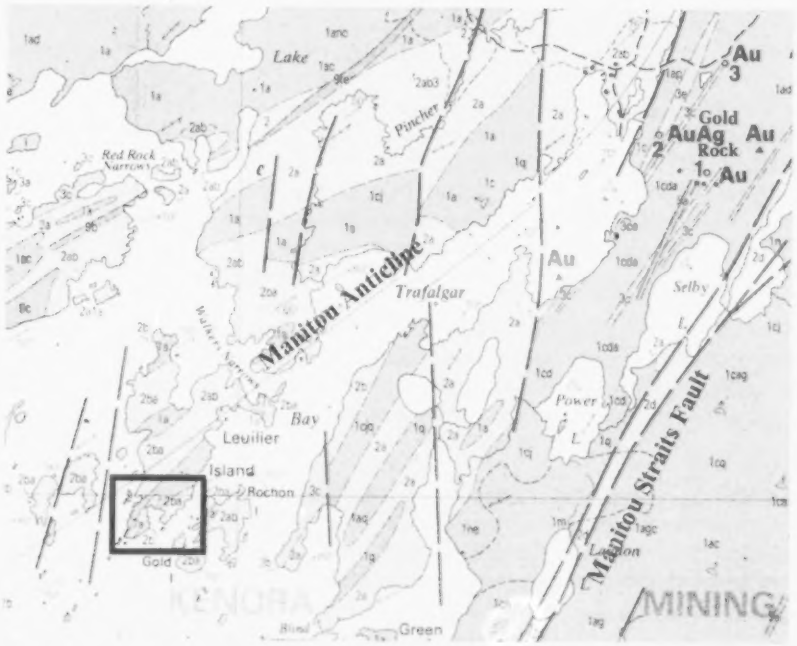


**Figure 4.** Generalized geology of Leuiller Island and Upper Manitou Lake (*modified from* Blackburn 1982). Box indicates area examined during this visit.

# PROPERTY VISITS

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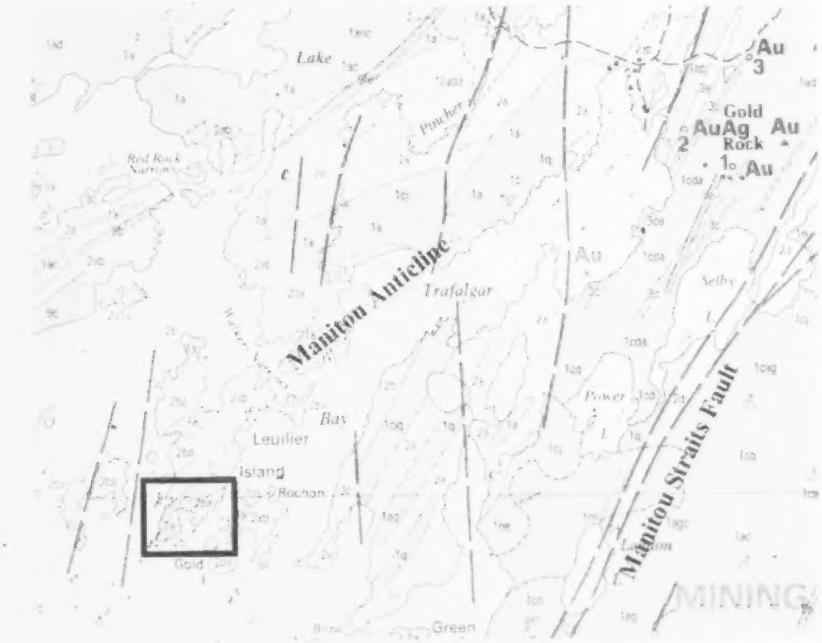


**Figure 4.** Generalized geology of Leuiller Island and Upper Manitou Lake (*modified from* Blackburn 1982). Box indicates area examined during this visit.

**Table 4.** Gold values and description of samples collected from Leuiller Island.

| Sample Number | Sample Description | Au (ounces per ton) |
|---|---|---|
| CR05-095 | Felsite dike with 5% disseminated pyrite cut by 3 cm wide white quartz vein. Minor strain to felsite unit (assay value related to felsite unit only) | 1028 |
| CR05-096 | Carbonate altered basalt, 20% calcite, 2% medium-grained cubic pyrite, minor silicification | 1029 |
| CR05-097 | Siliceous basalt, 1% disseminated fine-grained pyrite, devoid of calcite | 1371 |
| CR05-098 | Siliceous and carbonate altered basalt, 5% calcite, trace pyrite | 1371 |
| CR05-099 | Siliceous basalt, 1% disseminated medium-grained cubic pyrite, 3% disseminated fine-grained pyrite, void of calcite | 686 |
| CR05-100 | Siliceous basalt, 1% disseminated fine-grained cubic pyrite, void of calcite | 1029 |
| CR05-101 | Felsite dike, strained, 1–5% disseminated fine-grained pyrite, quartz veinlets located along fractures | 3772 |
| CR05-102 | Quartz vein up to 5 cm wide that cut CR05-101 unit. Vein is massive, white, trace fine-grained, disseminated pyrite | 1029 |

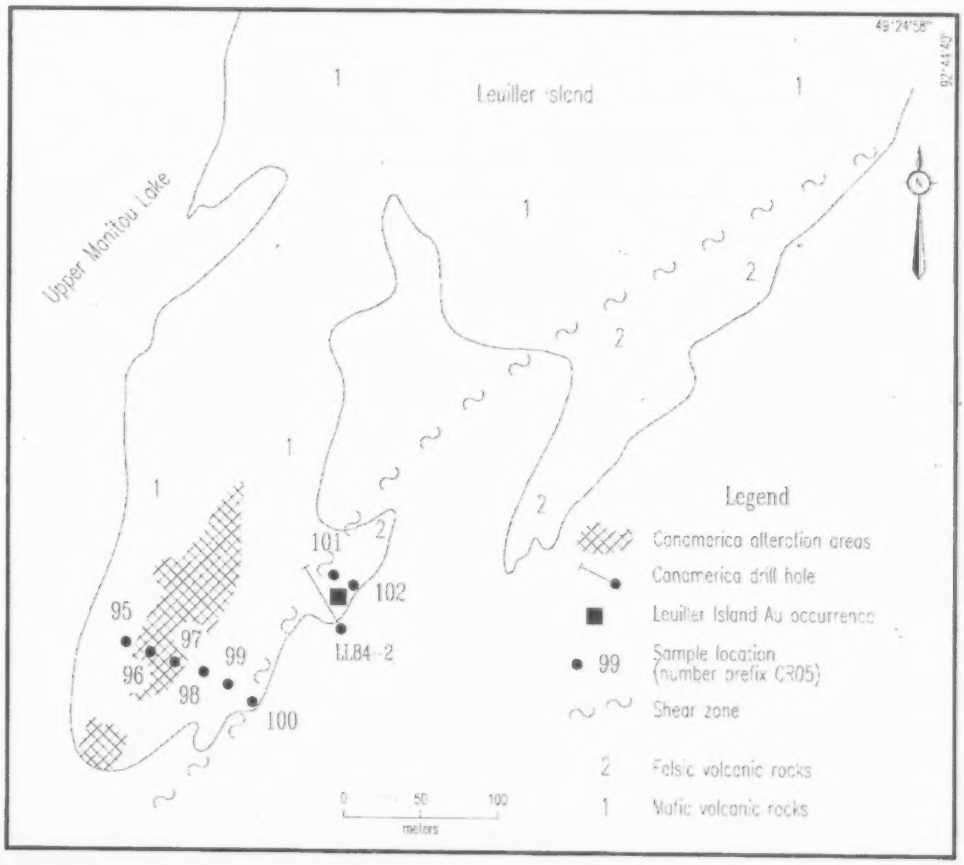


**Figure 5.** Sample locations and alteration areas on Leuiller Island (*modified from* Fox 1985).

Outcrops were examined and sampled by District staff as part of a traverse across the south part of the island. All rocks examined were highly strained and show various amounts of silicification, carbonatization and chloritization. Fractures related to strain trend in a northeast direction parallel to regional deformation and the Manitou Lake Anticline. Samples presented in Table 4 were collected to provide a representation of various alteration and rock types examined during this visit.

A northeast-trending shear zone, orientated parallel to the contact of the felsic and mafic volcanic rocks, illustrated in Figure 5, was discovered during the bedrock mapping program by Canamerica (Kenora District Office, assessment files, 52F/07SW X-4). The Leuiller Island gold occurrence, located on the southeast shore, is associated with these strained rocks. The strained felsic intrusive rocks related to the occurrence are approximately 3 m wide. Massive, white quartz veins intrude the felsic intrusive rocks. These quartz veins intrude along fractures, but also display a stockwork pattern. Mineralization in this area was tested with 3 diamond-drill holes. A significant drill intersection included a section which assayed 24.69 ppb Au in hole number LL84-2 (Kenora District Office, assessment files, 52F/07SW X-6).

All samples collected from this visit returned anomalous gold values. Gold content is not associated with a specific rock or alteration type. There were a minor number of quartz veins observed in the exposures examined. The only quartz veins discovered were located in felsic intrusive rocks. Gold values associated directly with the felsic intrusive rocks were higher than samples collected from quartz veins than cut these units.

This area of Upper Manitou Lake should be examined based on the elevated values from samples collected during this visit.

## Obee1 Molybdenum Showing (C. Ravnaas)

The Obee1 molybdenum showing is located approximately 60 km northeast of the Town of Fort Frances. Construction of Highway 502 exposed mineralization associated with the Obee1 molybdenum showing. The showing, located east of Vickers Lake (UTM location: 506689E, 5446007N) is held by Dryden prospector S. Johnston.

The area is underlain by felsic intrusive rocks associated with the Irene–Eltrut lakes batholithic complex (Figure 6). This part of the complex has not been examined by industry or government geologists. Porphyritic granite, granodiorite and diorite are the main rocks types. Foliation of the granodiorite and diorite is approximately 314/90°. All rocks have been fractured and intruded by felsic dikes and quartz veins.

Three district fracture patterns were observed in exposures. The oldest set ($F_1$) trends 300/84°N. Narrow white to grey quartz veins occur within these fractures. A later, more prominent, set ($F_2$), trending 050/80°E, overprints the first set of fractures. The width of quartz veins in $F_2$ fractures range from 1 to 10 cm. The $F_2$ fractures are cut and right-laterally offset by the youngest fractures ($F_3$). These $F_3$ fractures trend 320/70°S and are subparallel to the $F_1$ fractures. The felsic intrusive rocks adjacent to $F_3$ fractures show evidence of 1 to 6 cm wide, moderate strain zones. These strained rocks do not contain quartz, but show evidence of iron-staining. The $F_3$ fractures are the least prominent of the 3 fracture patterns in the area as illustrated in Figure 7.

Molybdenite associated with a 1.5 m wide zone of quartz veins and silicified felsic intrusive rocks is located adjacent to Highway 502. Fine-grained disseminated sulphides are present in the granodiorite and diorite associated with this mineralized zone. Iron-staining is present on the weathered surfaces of the intrusive rocks. The actual width of the mineralized zone is unknown because portions of the exposure were removed during highway construction.

A zone containing several parallel-trending quartz veins was examined. The quartz veins parallel the trend of $F_2$ fractures. The highest concentration of molybdenite is located along the fracture surfaces of a 6 cm wide, 050/60°E trending quartz vein. The mineralization can be traced along trend for approximately 2 m. Molybdenite flakes associated with the quartz veins and fracture surface of veins are fine to coarse grained. Molybdenite flakes can range up to 3 cm in size.

Approximately 1%, fine-grained disseminated molybdenite is located in siliceous intrusive rocks adjacent to the quartz veins. The exact width of disseminated mineralization is unknown as a result of highway construction.

The molybdenite mineralization appears to be structurally controlled and may originate from a porphyry-style mineralizing event. Two mineral deposit type environments are recommended for examination: 1) sulphide-mineralized, iron-stained and quartz-filled fractures that trend parallel to the $F_2$ fractures, and 2) hydrothermally altered rocks adjacent to quartz veins.

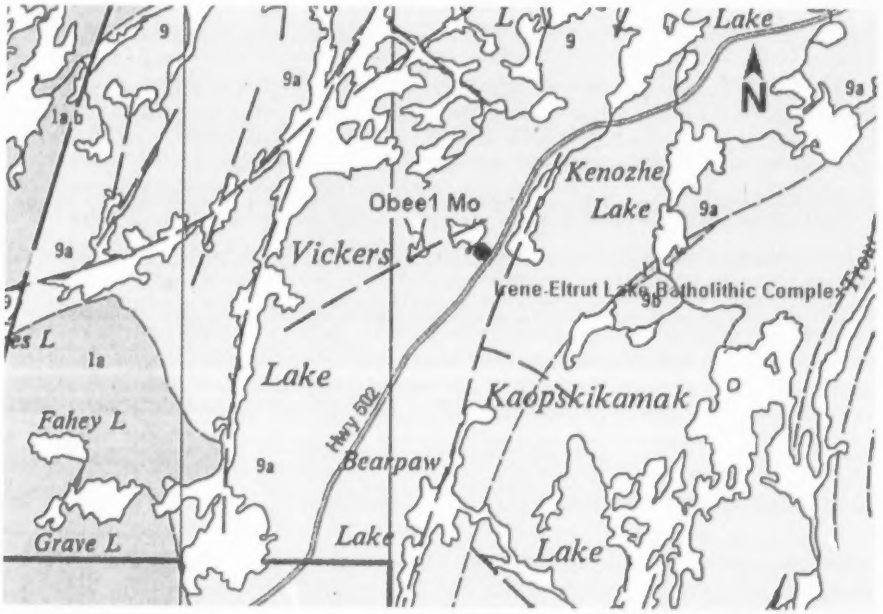


**Figure 6**. Location of Obee1 molybdenum showing (*modified from* Blackburn 1978).

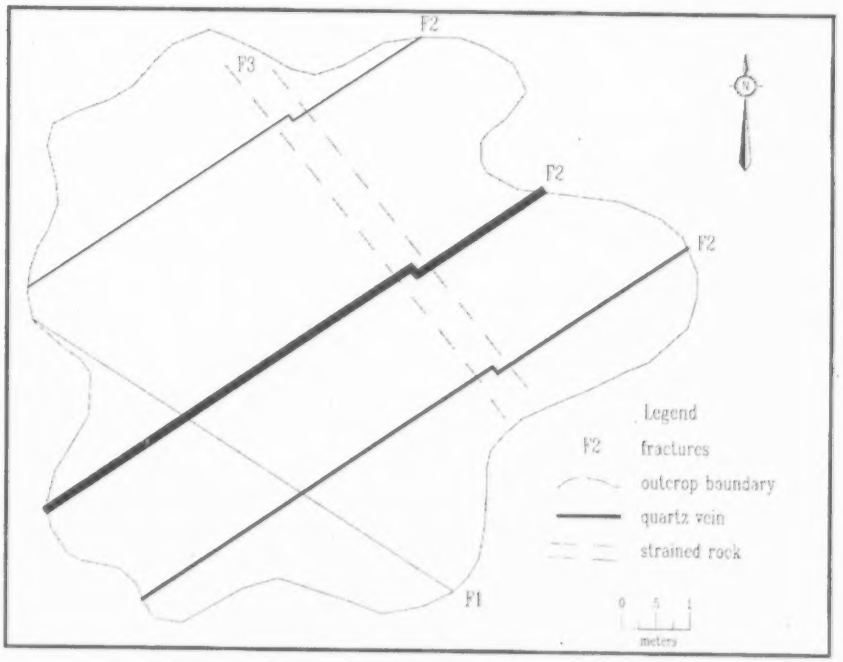


**Figure 7**. Sketch illustrating fracture patterns in the area of the Obee1 molybdenum showing.

# Redvers Township Intrusion, Redvers Township (A. Raoul)

A reconnaissance evaluation of the Redvers Township intrusion was conducted 1) to determine whether 3 known molybdenum occurrences are structurally controlled or related to porphyry copper-molybdenum type mineralization, and 2) if structurally controlled, to assess, through reconnaissance mapping, the potential of this intrusion (>70 $km^2$) to host additional mineralized structures.

The study area is located 20 km north of the Town of Vermilion Bay, Ontario (52K/03SW). Access is by 2 secondary highways and several tertiary roads. Outcrop exposure is good to the northeast (>30%), but poor to the southwest due to the presence of sand plains (<10%). The Redvers Township intrusion has not been mapped in detail nor adequately explored for molybdenum-copper or gold-silver mineralization.

## REDVERS TOWNSHIP INTRUSION

### Geology and Geochemistry

Beakhouse (1992) classified the Redvers Township intrusion as part of the foliated tonalite suite, one of a number of similar intrusions in the Winnipeg River Subprovince:

> These rocks are composed of tonalite, granodiorite and less commonly, quartz diorite. These rocks characteristically have a foliation and/or lineation defined by the orientation of minerals, mineral aggregates and rare enclaves. A weak gneissic fabric defined by narrow lenses of leucotonalite and discontinuous mafic schlieren is present locally, especially near the margins of the pluton. (Beakhouse 1992, p.292)

During this study, 44 samples were collected for analysis. Figure 8 illustrates the locations from which significant mineralization was sampled for this study. Selected whole rock analyses are shown in Table 5; Table 6 provides average geochemistry for similar rock types, and Table 7 shows selected metal analyses for some of the samples collected.

The reconnaissance mapping program identified the following units:

- Unit 3: late stage, medium to coarse-grained, pegmatite dikes
- Unit 2b: fine- to medium-grained, weakly to moderately foliated to gneissic, monzogranite to granodiorite
- Unit 2a: fine- to medium-grained, massive to weakly foliated, equigranular, syenogranite
- Unit 1: fine-grained, moderately to strongly foliated, black to dark green amphibolitized mafic volcanic rocks; possibly basaltic flows.

Larger exposures in this intrusion may contain units 2b, 2a and 3 or any combination of these units.

Values indicated as elevated and depleted in Table 5 are based on the averages in Table 6. Alteration of some samples is evident in the enrichment or depletion of certain elements, such as

1. Samples 35 and 41 show elevated $Al_2O_3$ and $K_2O$, indicating the presence of sericite;
2. Samples 45, 47A and 47B show elevated $SiO_2$, indicating the introduction of vein quartz or silicification;
3. Sample 50 shows elevated $SiO_2$ in this originally basaltic rock, indicating the presence of quartz veins or silicification. This sample also has elevated $Fe_2O_3$, MgO and CaO, indicating the presence of mafic minerals, such as biotite or chlorite.

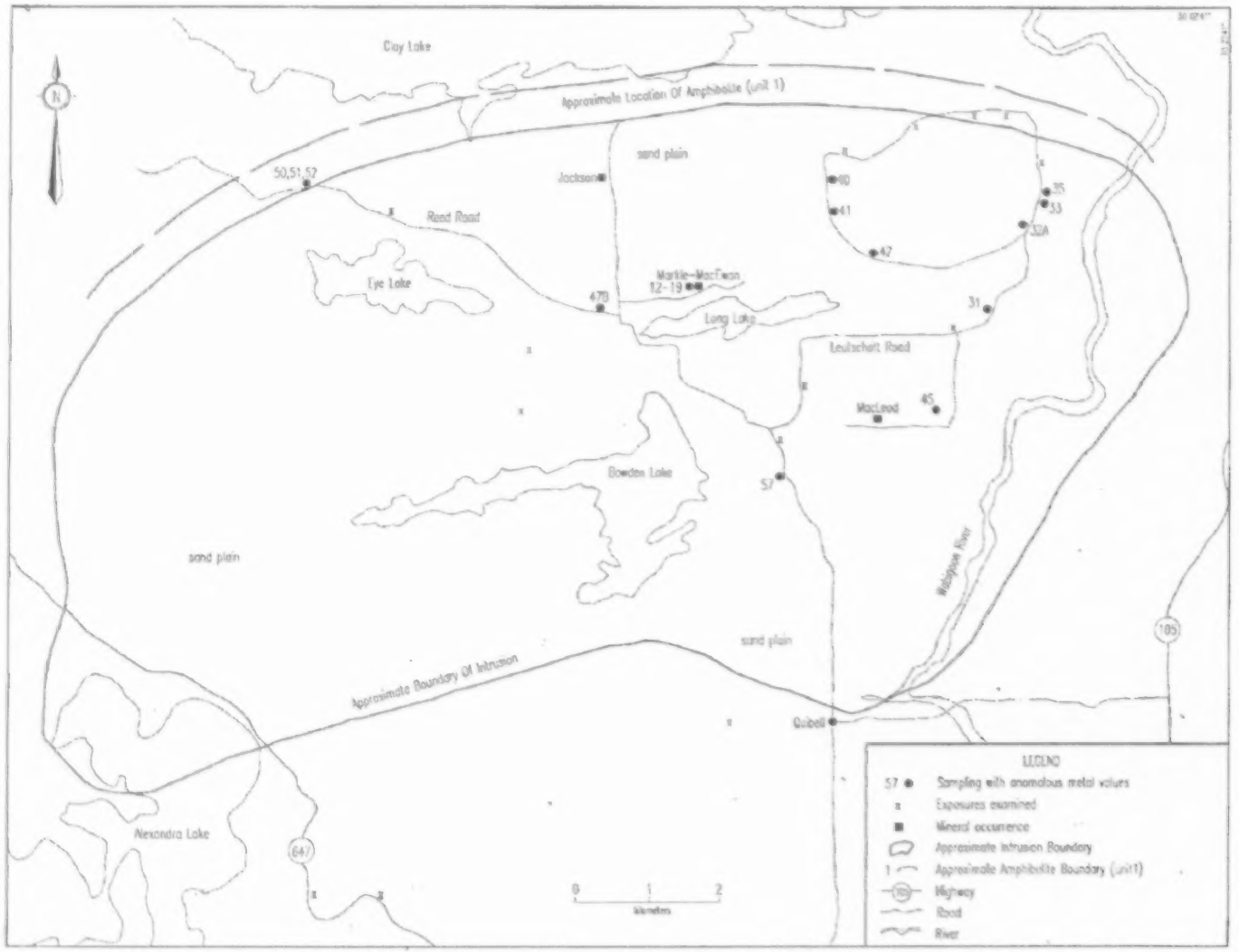


**Figure 8**. Sketch map indicating sample sites with anomalous metal values in the Redvers Township intrusion. Approximate outline of intursion *from* Ontario Geological Survey (1991).

Samples with elevated to highly anomalous gold and silver values (*see* Table 7) are characterized by

1. late-stage silica introduction, as silicification or quartz veins. The highest precious metal values are associated with this type of alteration. High silica was identified in samples 45, 47A, 47B and 50 by whole rock geochemistry and visual identification in hand samples 33, 51 and 52. All four of the geological units host the highly elevated Au-Ag values with associated elevated silica;
2. moderately elevated Au-Ag values are related to sericite ± hematite alteration. The presence of sericite or hematite was identified in samples 35 and 41 by whole rock geochemistry and visual identification in hand samples 31, 32A, 42, 47A, 51 and 52. This alteration was present in all the units except the basalt;
3. Samples 40, 42 and 57 show weakly elevated Au-Ag values with no detectable geochemical signature or visible alteration.

**Table 5.** Major element geochemistry of selected samples from the Redvers Township intrusion.

| Sample | Unit | $SiO_2$ (ppm) | $Al_2O_3$ (ppm) | $Fe_2O_3$ (ppm) | CaO (ppm) | MgO (ppm) | $K_2O$ (ppm) | $Na_2O$ (ppm) | MnO (ppm) | $P_2O_5$ (ppm) | $TiO_2$ (ppm) | LOI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 31 | 2b | 65.97 | 16.67 | 2.66 | 3.06 | 1.39 | **3.30** | 4.40 | 0.05 | 0.19 | 0.20 | 0.65 |
| 32A | 2b | 67.50 | 16.64 | 3.11 | 2.74 | 1.46 | 2.76 | 4.49 | 0.03 | 0.17 | 0.47 | 0.58 |
| 33 | 2a | 71.15 | 15.95 | **1.05** | **1.48** | **0.47** | **6.22** | 3.24 | 0.01 | 0.19 | 0.11 | 0.56 |
| 35 | 2a | 66.50 | **17.59** | 2.85 | 3.04 | 1.38 | 3.13 | 4.69 | 0.04 | 0.20 | 0.30 | 0.79 |
| 40 | 2b | 66.11 | 16.99 | 2.77 | 3.23 | 1.46 | 2.72 | 4.77 | 0.03 | 0.17 | 0.35 | 0.54 |
| 41 | 2b | 64.96 | **18.79** | 2.47 | 2.42 | 1.34 | **4.59** | 4.35 | 0.03 | 0.21 | 0.30 | 0.74 |
| 42 | 2a | 71.02 | 14.84 | 1.56 | 1.17 | **0.34** | 5.86 | 3.09 | 0.01 | 0.10 | 0.11 | 1.34 |
| 45 | 2a | **75.84** | **13.88** | 1.34 | **1.45** | **0.34** | **4.45** | 3.18 | 0.02 | 0.05 | 0.14 | 0.49 |
| 47A | 2b | **74.98** | **14.08** | 1.41 | **1.52** | **0.30** | **4.47** | 3.67 | 0.02 | 0.04 | 0.13 | 0.34 |
| 47B | 2b | **73.60** | 14.80 | 1.92 | **1.86** | **0.46** | **3.67** | 3.63 | 0.03 | 0.07 | 0.19 | 0.56 |
| 50 | 1 | **57.29** | 14.77 | **9.83** | **7.20** | **5.57** | 1.11 | 3.30 | 0.18 | 0.08 | 0.50 | 0.77 |
| 51 | 3 | 71.57 | 16.39 | 1.13 | 2.90 | 0.42 | 2.99 | 4.02 | 0.01 | 0.11 | 0.04 | 0.79 |
| 52 | 3 | 72.07 | 15.28 | 1.27 | 2.87 | 0.59 | 3.06 | 3.94 | 0.02 | 0.39 | 0.07 | 0.75 |
| 57 | 3 | 72.74 | 14.52 | 2.17 | 2.05 | 0.55 | 3.51 | 3.66 | 0.03 | 0.08 | 0.23 | 0.91 |

**Bold** values are representative of enrichment or depletion.

**Table 6.** Average major element geochemistry for rocks similar to those examined in this study (data *from* NEWPET 1987–1992).

| Rock Type | Unit | $SiO_2$ (ppm) | $Al_2O_3$ (ppm) | $Fe_2O_3$ (ppm) | CaO (ppm) | MgO (ppm) | $K_2O$ (ppm) | $Na_2O$ (ppm) | MnO (ppm) | $P_2O_5$ (ppm) | $TiO_2$ (ppm) | LOI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pegmatite | 3 | 72.82 | 13.27 | 2.59 | 1.14 | 0.39 | 4.30 | 3.55 | 0.06 | 0.07 | 0.28 | 1.49 |
| Gneissic Granodiorite | 2b | 65.01 | 15.91 | 4.73 | 4.32 | 1.78 | 2.17 | 3.79 | 0.09 | 0.15 | 0.58 | 1.25 |
| Syenogranite | 2a | 57.94 | 17.02 | 2.59 | 6.79 | 3.33 | 2.45 | 3.48 | 0.14 | 0.21 | 0.87 | 0.34 |
| Basalt (Amphibolite) | 1 | 49.20 | 15.74 | 10.72 | 2.91 | 9.47 | 1.84 | 1.10 | 0.35 | 0.20 | 1.38 | 2.54 |

Granite values were used for the pegmatite major element geochemistry.

**Table 7.** Selected metal analyses from the Redvers Township intrusion.

| Sample | Unit | Location (NAD83, Zone 16) Easting | Northing | Description | Au (opt) | Ag (opt) | Cu (ppm) | Mo (ppm) | Pb (ppm) |
|---|---|---|---|---|---|---|---|---|---|
| 31 | 2b | 471864 | 5539686 | gneissic granodiorite with weak hematite ± sericite alteration (<5%) | N.D. | 11.40 | 7 | N.D. | 14 |
| 32A | 2b | 472404 | 5540850 | gneissic monzogranite with hematized ± sericite altered pegmatite | 0.06 | 0.90 | N.D. | N.D. | 22 |
| 33 | 2a | 472634 | 5541237 | potassium feldspar-rich granite with hematite quartz-rich (>50%) pegmatite | 1.10 | 33.00 | 10 | N.D. | 10 |
| 35 | 2a | 472694 | 5541421 | syenogranite with 2% limonite (pyrite) in oxidized matrix | 0.01 | N.D. | 5 | N.D. | 14 |
| 40 | 2b | 469802 | 5540907 | grey monzogranite with no alteration | N.D. | 0.60 | 6 | N.D. | 13 |
| 41 | 2a | 469802 | 5540907 | pink syenogranite with no alteration | N.D. | 0.20 | N.D. | N.D. | 19 |
| 42 | 2a | 469802 | 5540907 | syenogranite with weak to moderate hematite-sericite alteration (<15%) | 0.01 | N.D. | N.D. | N.D. | 9 |
| 45 | 2a | 470889 | 5538286 | syenogranite with weak sericite-silica alteration and <1% pyrite | 0.02 | 0.10 | N.D. | N.D. | 13 |
| 47A | 2b | 467701 | 5538691 | pink, banded gneiss with weak silica-sericite (<10%) overprinting | 0.20 | 0.90 | N.D. | N.D. | 7 |
| 47B | 2b | 466307 | 5539853 | 0.5–2 cm veins of >50% quartz-tourmaline in fracture of gneissic granodiorite | 0.02 | 0.20 | N.D. | N.D. | 13 |
| 50 | 1 | 462275 | 5541819 | amphibolitic basalt of >80% biotite-hornblende with >3% pyrite ± chalcopyrite | 13.55 | N.D. | 43 | N.D. | 11 |
| 51 | 3 | 462275 | 5541819 | grey pegmatite with weak-moderate silica-sericite alteration (<20%) and <3% biotite | 0.02 | N.D. | 25 | N.D. | 13 |
| 52 | 3 | 462275 | 5541819 | hematized pegmatite with weak to moderate silica-sericite alteration (<20%) and <3% biotite | 0.07 | N.D. | 27 | N.D. | 11 |
| 57 | 2b | 468761 | 5537904 | gneissic granodiorite with no alteration | 0.01 | N.D. | 9 | N.D. | 13 |

N.D. – not detected; opt – ounces per ton

## Mineral Occurrences

Historical records of the molybdenum occurrences in this area (Markle–MacEwan, Jackson and MacLeod) indicate that all 3 mineralized zones are associated with silica flooding and have a similar orientation, 310/90°. It can be interpreted that these zones represent mineralized extensions of each other, over a strike-length in excess of 5 km.

During the field investigation, only the Markle–MacEwan molybdenum occurrence was located. This search did not find either the Jackson molybdenum, or the MacLeod molybdenum occurrences.

Prospector Alex Glatz located the MacLeod molybdenum occurrence on mining claim 4205704 (UTM location: 470140E, 5538183N). Two shallow blasted pits in foliated and silicified granite exposed molybdenite-pyrite bearing quartz veins in red-brown granitic country rock. Sampling by Mr. Glatz yielded 1) a 20 m north-south composite grab sample that assayed 0.145% Mo and 0.07% Cu; and 2) a selected grab sample that assayed 0.780% Mo and 0.05% W (A. Glatz, Prospector, personal communication, January 21, 2006).

The Markle–MacEwan occurrence (UTM location: 467759E, 5540145N) is reached by travelling 24 km north of Vermilion Bay on Hwy 105 and then east for 1.1 km along an old bush road. The site consists of 6 test pits, trenches and a shaft along a strike length of 55 m at 305°. The excavations were part of the work completed by the Markle Molybdenite Syndicate in 1936 and 1937. The best results obtained by the syndicate were 1) 1.14% $MoS_2$ from an 82 kg bulk sample, and 2) sampling across a 1.5 m width established grades of <0.20% $MoS_2$ over a 57 m strike length.

**Table 8.** Major element geochemistry from the Markle–MacEwan occurrence.

| Sample | Unit | $SiO_2$ (ppm) | $Al_2O_3$ (ppm) | $Fe_2O_3$ (ppm) | CaO (ppm) | MgO (ppm) | $K_2O$ (ppm) | $Na_2O$ (ppm) | MnO (ppm) | $P_2O_5$ (ppm) | $TiO_2$ (ppm) | LOI |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12 | 3 | 65.50 | **17.81** | 2.64 | 2.50 | **0.68** | **5.29** | 3.73 | 0.04 | 0.24 | 0.19 | 1.25 |
| 13 | 3 | 62.56 | **18.32** | 3.52 | 3.65 | **0.76** | **5.01** | 4.14 | 0.08 | 0.22 | 0.06 | 1.56 |
| 14 | 2b | **77.87** | 11.70 | **2.12** | **1.65** | **0.43** | 2.40 | 2.56 | 0.03 | 0.06 | 0.16 | 0.97 |
| 15 | 3 | 71.32 | 15.58 | **2.16** | **2.02** | **0.56** | 3.83 | 3.22 | 0.04 | 0.08 | 0.24 | 0.89 |
| 16 | 2b | **86.37** | **6.89** | **1.57** | **1.22** | **0.16** | 1.20 | **1.60** | 0.03 | 0.06 | 0.09 | 0.79 |
| 17 | 2b | **77.95** | **12.36** | **1.70** | **1.44** | **0.28** | 2.88 | 2.27 | 0.02 | 0.06 | 0.17 | 0.82 |
| 18 | 2b | **84.02** | **8.26** | **1.30** | **0.98** | **0.29** | 2.35 | **1.58** | 0.02 | 0.05 | 0.16 | 0.59 |
| 19 | 2b | **94.54** | **3.17** | **0.45** | **0.13** | **0.01** | **0.87** | **0.34** | 0.01 | 0.02 | 0.02 | 0.45 |

**Bold** values are representative of enrichment or depletion.

Mapping from southwest to northeast, the following units were encountered

1. the footwall comprises coarse-grained, pink pegmatite to pink pegmatite in foliated granodiorite (unit 3 in unit 2b; samples 12 and 15);
2. the main zone consists of a 2 m wide zone of potassium feldspar-plagioclase-quartz ± garnet-tourmaline with 1 to 5% disseminated molybdenum flakes and trace pyrite (units 2b and 3). There has been 10 to 50% silica introduction and feldspar grain-size reduction. A weak to moderate tectonic overprint occurs as a fracturing event (samples 13, 16, 18 and 19);
3. the hanging wall is a medium-grained unit of gneissic bands of >85% potassium feldspar-plagioclase-quartz and <15% bands of biotite ± hornblende with trace to 1% pyrite ± trace molybdenum (unit 2b; samples 14 and 17).

Values indicated as elevated and depleted in Table 8 are based on average values presented in Table 6. Alteration of some samples is evident in the enrichment or depletion of certain elements, such as

1. Samples 12 and 13 show elevated $Al_2O_3$ and $K_2O$, indicating the presence of sericite;
2. Samples 14, 16, 17, 18, and 19 show elevated $SiO_2$ in these granitic rocks, indicating the introduction of silica or quartz;
3. most of the samples show low $Fe_2O_3$ or MgO or CaO, indicating the destruction and replacement of mafic minerals, such as hornblende, biotite or chlorite.

The samples described in Table 9 demonstrate elevated to highly anomalous values for molybdenum, tungsten, copper and gold. In particular

1. for samples 16, 17, 18 and 19, the strongest metal values, Mo±W-Cu-Au, are related to late-stage silica introduction;
2. quartz flooding was also recognized in samples 12 and 13, but not identified by the whole rock geochemistry. These contained weakly anomalous values for Cu-Mo;
3. Samples 14 and 15 show weakly elevated values of W-Cu-Mo with no geochemical signature or visible alteration.

## CONCLUSIONS AND RECOMMENDATIONS

During the reconnaissance mapping of this intrusion, 4 separate geological units (1, 2a, 2b and 3) were identified. Several types of alteration with economic mineralization were found in each of the units:

a) silica flooding varied from 5 to 20% and was in the form of quartz replacement of the feldspars and mafic constituents; fine quartz veinlets (<1 cm) are present in late-stage fractures at 280 to 320°. Assays of 1.10 ounces Au per ton and 33.00 ounces Ag per ton were obtained from Sample 33;

**Table 9.** Metal analyses from the Markle-MacEwan occurrence.

| Sample | Location | Description | Ag (opt) | Au (opt) | Cu (ppm) | Mo (ppm) | Pb (ppm) | W (ppm) |
|---|---|---|---|---|---|---|---|---|
| 12 | Trench 2 – 1 m chip SW country rock | potassium feldspar pegmatite with minor quartz-biotite and no sulphides | N.D. | N.D. | 231 | 58 | 33 | 22 |
| 13 | Trench 2 – 2 m chip main zone | Silicified (<20%) pegmatite with garnet and 1% molybdenum, trace pyrite | N.D. | N.D. | 697 | 358 | 31 | 6 |
| 14 | Trench 2 – 1 m chip NE country rock | Gneissic, banded granodiorite with no sulphides | N.D. | N.D. | 165 | 88 | 17 | 219 |
| 15 | Trench 3 – 1 m chip SW country rock | Pegmatite dike in foliated granodiorite and no sulphides | N.D. | N.D. | 161 | 67 | 31 | 124 |
| 16 | Trench 3 – 2 m chip main zone | Highly silicified (>50%) granodiorite with minor garnet-tourmaline and 3–5% molybdenum | N.D. | 0.04 | 460 | 7956 | 30 | 2071 |
| 17 | Trench 3 – 1 m chip NE country rock | Gneissic, weakly silicified, banded granodiorite with hornblende-biotite and trace molybdenum | N.D. | N.D. | 403 | 2160 | 33 | 864 |
| 18 | Trench 4 – 1 m chip main zone | Gneissic granodiorite with weak silica (<10%) and trace to 0.5% molybdenum-pyrite | N.D. | N.D. | 109 | 1950 | 29 | 346 |
| 19 | Trench 6 – grab main zone | Highly silicified granodiorite with >70% silica, minor garnet-tourmaline and 1–2% pyrite, 1% chalcopyrite and 1% molybdenum | N.D. | N.D. | 442 | 2630 | 41 | 15 |

N.D. – not detected; opt – ounces per ton

b) trace to 3% sulphides, dominantly pyrite ± chalcopyrite, occur in the late-stage fractures at 280 to 320°. An assay of 13.55 ounces Au per ton was obtained from Sample 50;

c) 3 to 10% iron oxide, as either hematite or limonite, in the finer matrix of the foliated to gneissic rocks. Assays of 0.06 ounces Au per ton and 0.90 ounces Ag per ton (sample 32A) were obtained;

d) <10% sericite or muscovite altering potassium feldspar in units 2a and 2b. Assays of 0.20 ounces Au per ton and 0.90 ounces Ag per ton were obtained from Sample 47A;

e) weak epidote alteration (<5%) in gneissic tonalite (unit 2b). No significant assays were obtained in samples with epidote alteration.

The Redvers Township intrusion has potential to host economic mineralization. Two types of mineralization are interpreted to be present:

1. elevated to highly anomalous gold and silver values were found in 14 out of the 36 samples taken during the preliminary sampling program. More late-stage fractures containing silica or sericite ± hematite alteration with Au-Ag mineralization may exist within the pluton. Rock types hosting this mineralization and alteration are gneissic granodiorite (unit 2b), syenogranite (unit 2a) and amphibolitic basalt (unit 1);
2. elevated to highly anomalous molybdenum and tungsten values with minor copper and gold were found in the Markle–MacEwan and MacLeod molybdenum occurrences. More late-stage fractures containing silica ± sulphide (pyrite, chalcopyrite) alteration with Mo-W ± Cu-Au mineralization may exist within the pluton. This alteration and mineralization is hosted by gneissic granodiorite (unit 2b) and pegmatites (unit 3).

Approximately 15 intrusions similar to the Redvers Township intrusion (e.g., Lateral Lake intrusion) occur in the Winnipeg River Subprovince. The Redvers and Lateral Lake intrusions are known to host gold-silver and molybdenum mineralization; further prospecting of the other intrusions is warranted and highly recommended.

# RECOMMENDATIONS FOR EXPLORATION

## Inactive Mineral Prospects in the Kenora District

The following prospects (shown on Figure 9) have been subject to exploration activity, but, in the past few years, have been dormant and are presently available for option.

The **Marchington Road property** (A), held by Commander Resources Ltd., is located in the Savant Lake greenstone belt. The property hosts a historical resource of 96 456 tons at 2.20% Cu, 1.18% Zn, 2.81% Pb and 2.81 ounces Ag per ton (www.commanderresources.com, *see* Properties, For Option, Ontario VMS [accessed March 7, 2006]). The rocks in the area are comprised of intermediate to felsic volcanic rocks that display evidence of widespread hydrothermal alteration. Five zones of base and precious metal mineralization have been identified on the property. This part of the greenstone belt has high base-metal potential.

The **Sakoose property** (B) is owned by Dryden Prospector Alex Glatz. It hosts a historical resource of 50 000 tonnes grading 0.41 ounces Au per ton (Beard and Garratt 1976). Gold mineralization occurs in a quartz vein system that has been traced for 400 m, can be up to 6.5 m wide and has been tested to a depth of 200 m. Four shafts are located on the property. Past production occurred from the No.1 and No.2 shafts. The southwest extension of the quartz vein system has not been tested by drilling.

The **Mulcahy Lake intrusion** (C) is located in the Eagle–Wabigoon lakes greenstone belt. The intrusion is a northeast-trending, vertical-dipping layered mafic intrusive body. Studies of the intrusion have identified 4 zones (Sutcliffe and Smith 1985). The Marginal and Lower zones are 2.5 km thick and consist of layered gabbro and gabbro-norite rocks. The Middle Zone is 3 km thick at the widest part and consists of norite, gabbro-norite and magnetite-bearing rocks. The Upper Zone is 1.5 km thick and consists of gabbro-norite to ultramafic rocks. This intrusion has the potential to host a "reef-type" PGE mineralizing environment.

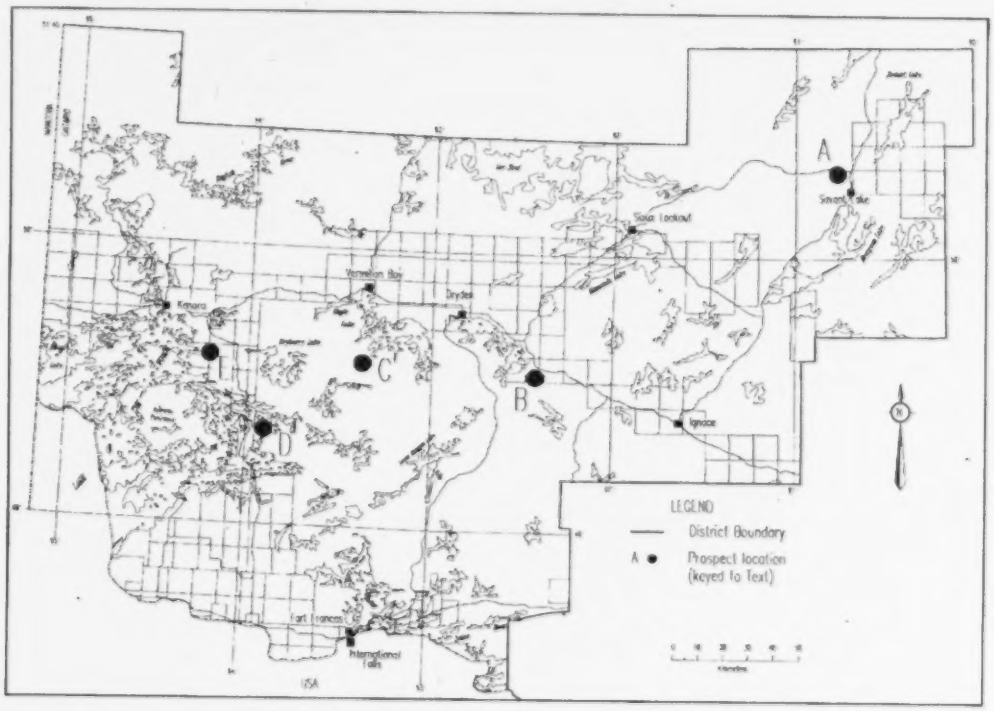


**Figure 9.** Location of inactive mineral prospects in the Kenora District.

The **Dubenski property** (D), held by Kenora prospector Paul Dubenski, is located in the Kakagi–Rowan lakes greenstone belt. A historical resource of 355 286 tonnes at 0.185 ounces Au per ton exists on the property (Kenora District Office, assessment file, 52F05SW WWW-5). Gold mineralization is present in zones of sericite schist and lenses of quartz that can be interpreted to extend for 500 m along strike. The property is underlain by highly strained felsic volcanic rocks that have been deformed by up to 3 deformation events, the most prominent of which is associated with the Pipestone–Cameron fault. The Cedartree Lake area has been the focus of numerous exploration programs and has high potential for gold mineralization.

The **Wendigo property** (E), held by Witch Bay Camp owner Steve Hocket, is located in the Gibi Lake assemblage, part of the Lake of the Woods greenstone belt. The rocks in the area are highly strained in proximity to the east-trending Andrew Bay–Witch Bay fault. The Wendigo quartz vein system is developed predominantly within sheared and altered mafic volcanic rocks north of the fault. At least 3 quartz veins occur in the area near the Wendigo Prospect. The most prominent vein is 100 m long, 0.8 m wide and has been drilled to a depth of 230 m. Production from this vein is reported as totalling 206 054 tonnes at 0.327 ounces Au per ton, 0.071 ounces Ag per ton and 0.42% Cu (Davies and Smith 1988). Copper mineralization is associated with altered mafic volcanic wall rocks. Numerous other gold and base-metal occurrences are known in this part of the greenstone belt.

Additional information on these and other prospects are available, as presentations in Microsoft® PowerPoint® format, with attached notes, on the Ministry of Northern Development and Mines Web site (go to Resident Geologist Program, Northwest Regional Office, Kenora District, Prospects for Option)
http://www.mndm.gov.on.ca/mndm/mines/resgeol/northwest/kenora/Prospecting/prospect_e.asp

# OGS ACTIVITIES AND RESEARCH BY OTHERS

One Ontario Geological Survey (OGS) field project and 6 university research projects were conducted in the Kenora District in 2005. Figure 10 illustrates the location of these projects.

A) G.P. Beakhouse, Precambrian Geoscience Section, OGS, completed the fourth year of a multi-year project mapping the Dinorwic–Butler Lake segment of the Wabigoon area.

B) B. Cook, University of Manitoba, Winnipeg (BSc Honours thesis), is studying the magnetic response related to the Duport gold deposit in the Shoal Lake area.

C) J. McDonald, University of Manitoba, Winnipeg (BSc Honours thesis), conducted a study on the molybdenum mineralizing events related to the Markle–MacEwan occurrence in Redvers Township.

D) R. Melquist, University of Manitoba, Winnipeg, conducted studies related to a BSc thesis on the geology of the Duport deformation zone, in the Shoal Lake area.

E) N. Halden, J. Young, and B. Mandziuk, University of Manitoba, Winnipeg, conducted geochronology and provenance studies of the Electrum Assemblage, Ewart Township.

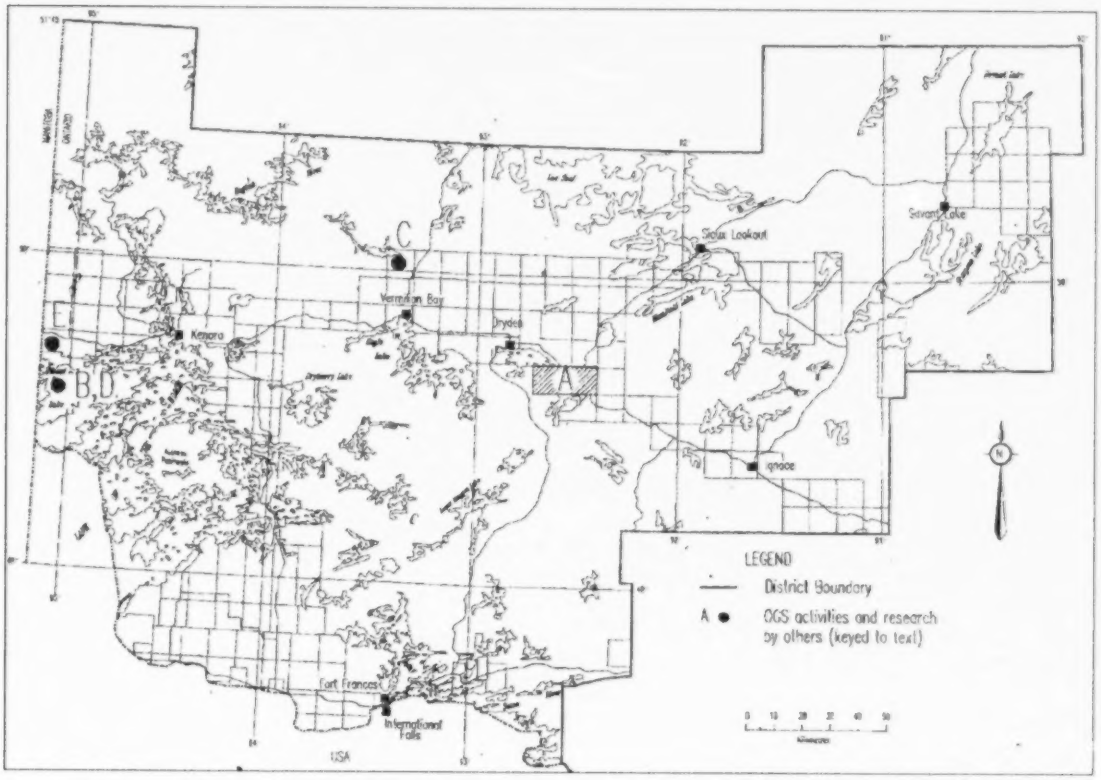


**Figure 10.** Location of Ontario Geological Survey and other research activities in the Kenora District in 2005.

**Table 10.** Mineral deposits in the Kenora District in 2005.

**Abbreviations**

| | |
|---|---|
| AF ..... Assessment Files | MLS ..... Mining Lands, Sudbury |
| CMH ..... *Canadian Mines Handbook* | MR ..... Mining Recorder |
| GR ..... Geological Report | NM ..... *The Northern Miner* |
| MDC ..... Mineral Deposit Circular | OFR ..... Open File Report |
| MDIR ..... Mineral Deposit Inventory record | PC ..... Personal Communication |
| RoA ..... Report of Activities | SMDR ..... Source Mineral Deposit Record |

| Deposit Name (NTS) | Commodity | Tonnage Grade Estimates and/or Dimensions | Reserve References | Status (as of Jan. 2005) |
|---|---|---|---|---|
| Apex Occurrence (52F/05NE) | Cu, Ni | Zone: 110m x 4m x 180m<br>Estimated Reserves: 237 600 tonnes at 1.03% Cu and 0.56% Ni | GR 111, p.40 | Staked claim K1239515 |
| Bad Vermilion Lake–Seine Bay Prospect (52C/10NW) | Fe, Ti, V | Reserves: 1.2 Mt at 15% $TiO_2$ and 45% Fe.<br>Potential for 177 800 tonnes of titanium sponge | NM 8/15/85, p.3 (Beaver Energy Resources) | Inactive, 8 claims |
| Bending Lake Prospect (52F0/8SE) | Fe | Recoverable Ore (proposed):<br>2000m by 300m wide with a resource of 247 Mt at 23% Fe<br>Proposed concentrate of 70% Fe (96–97% magnetite) using magnetic separation | Environmental Assessment, Steep Rock Iron Mines, Sept. 1977 | Active,<br>70 Patented claims |
| Big Master (Kenwest Mine) (52F/07NE) | Au, Ag | Production: 2565 oz Au and 184 oz Ag from 14 470 tons<br>Indicated 1967 drilling: 30 000 tonnes at 0.36 opt Au<br>Old workings: 19 000 tonnes at 0.30 opt Au<br>Reserves (proven and probable): 123 000 tonnes at 0.30 opt Au and<br>Indicated: 600 000 tonnes at 0.22 opt Au | MDC 16, p.9<br>CMH, 1988–89, p.92 (Canamerica Precious Metals Inc.) | Inactive, patented claims HP366, HP373, HP301 |
| Big Whopper Pegmatite (52 L/07SE) | Li, Cs, Rb | Preliminary resource estimated at 11.6 Mt averaging 1.34% $Li_2O$ and 0.30 $Rb_2O$ | CMH, 2000–2001, p.45 (Avalon Ventures Ltd.) | Active, 12 staked claims |
| Bonanza Mine (52F/10NW) | Au | Reserves: 5000 tonnes at 0.25 opt Au across a width of 0.3m | Van Horne Gold Expl. Inc. AF | Inactive, 59 claims K53304 (site) |
| Cameron Lake Deposit (52F/05SE) | Au | Measured and Indicated Reserves: 572 000 tonnes at 6.54 gpt Au<br>Inferred Reserves: 1 012 000 tonnes at 5.20 gpt Au (using NI43-101 standards) | Press release, Nuinsco Resources, 04/09/2005 | Care and maintenance, 61 leased claims |
| Canadian Arrow Prospect (Dogpaw Lake) (52F/05SW) | Au | Indicated Reserves: 96 650 tonnes at 0.43 opt Au in 2 veins | NM 4/05/61 (Consolidated Golden Arrow Mines Ltd.) | Inactive, 17 claims |
| Canamerica E Zone (52F/07NE) | Au | Reserves: 529 650 tonnes of 0.103 opt Au indicated and inferred in NE Zone | NM 7/13/87, p.17 (Canamerica Precious Metals Inc.), Cochrane Oil & Gas Ltd., AF | Inactive, 45 claims |
| Cates Prospect (52F/13SE) | Zn, Ag | Zone: 2700m x 12m x 60m<br>Reserves: 5.83 Mt at 0.5% Zn and 0.5 opt Ag | AF 52F/13SE M-1 to M-6 (Noranda)<br>AF 52F/13SE B-1 to B-6 (Rio Algom) | Active, 9 claims |

| Deposit Name (NTS) | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status (as of Jan. 2005) |
|---|---|---|---|---|
| Cedar Island Deposit (Cornucopia) (52E/10SW) | Au | Production: 5620 oz Au<br>Indicated Reserves: 1.096 Mt at 6.63 gt Au.<br>Inferred Reserves: 0.832 Mt at 5.63 gpt Au (both Cedar Island and Mikado) | Press release, Amador Gold Corp., 10/06/2003 www.amadorgoldcorp.com | Inactive, patented claims D212, D265 |
| Dobie Deposit (52C/12NW) | Cu-Ni | Reserves: 5.0 Mt at 0.28% Cu and 0.24% Ni | AF 52C/12NW B-3 | Inactive, Patented land and reserve |
| Dubenski Gold Prospect (52F/05SW) | Au | Drill-indicated Reserves: 355 286 tonnes at 6.32 gpt (calculated to a depth of 150m) | CMH, 1999–2000, p.52 (Avalon Ventures) | Inactive, 22 Leased claims |
| Duport Mine (Consolidated Professor) (52E/11SE) | Au | Production: 4672 oz Au and 1143 oz Ag from 1287 tons<br>Indicated Reserves: 424 000 tonnes at 13.4 g/t Au<br>Inferred Reserves: 387 000 tonnes at 10.7 g/t Au | MDC 16, p.11<br><br>Press release, Halo Resources, 08/10/2005 | Active, Patented claims S.170, K1332, K1333, K2374 |
| Eagle Rock Property (Campbell Zone) (52F/02NE) | Au, Pt, Pd, Cu | Zone: 1350 m long x 18 m true width to 150 m depth. Test results (metallurgical) have shown that a sulphide concentrate may be produced exceeding 20% Cu, 2.5% Ni and almost one ounce of Pt+Pd+Au (11.5 g/t Pd, 9.0 g/t Pt, and 6 g/t Au) per tonne | Champion Bear Resources Ltd. www.championbear.com | Active, 28 mining claims |
| Electrum Prospect-W Zone (fault zone or west zone) (52E/11 NE) | Au | Zone: 0.23 opt Au from 61m x 2.1m x 19.8m zone<br>Reserves: 100 000 tonnes of 0.33 opt Au in the P and W zones combined | OFR 5695, p.108 Laramide Resources Inc. Annual Report, 1987 | Inactive, Patented and Leased claims K20696-K28663 |
| Elora (Jubilee) (52F/07NE) | Au | Production: 1370 oz Au and 296 oz Ag from 13 766 tons<br>Reserves (Au):<br>Probable: 228 500 tonnes at 0.18 opt<br>Speculative: 5000 tonnes at 0.10 opt from dump | MDC 16, p.15<br><br>OFR 5332, p.37 Table 8 | Inactive, Patented claim HP 301 |
| F-Group (52G/14SE) | Cu, Zn, Pb, Ag | Original Reserves (Dec/78): 630 000 tonnes at 8.10% Zn, 0.98% Cu, 0.49% Pb, 1.80 opt Ag<br>Reserves (Dec/82): 200 000 at 8.20% Zn, 0.80% Cu, 0.60% Pb, 1.80 opt Ag | CMH 1979–80, p.194 (Noranda) CMH 1982–83, p.254 (Noranda) | Inactive, Patented claims PA312564-65, PA312567-68 and PA226490-91 |
| Flambeau Lake Prospect (52F/10NW) | Au | Reserves: diamond drilling partially outlines a zone with potential for 572 000 tonnes (Au grade unstated) | AF 52F/10NW UU-1 and UU-2 | Inactive, Patented claim AL88 |
| Foley Mine (52C/10NE) | Au | Production: 855 oz Au and 149 oz Ag from 5680 tons<br>Reserves: 40 000 tonnes at 0.5 opt Au proven/probable and 400 000 tonnes at 0.5 opt Au speculative | MDC 16, p.16<br><br>NM 09/25/80 Seaforth Mines Ltd. OFR 5539, p.194 | Inactive, Patented claims K475101, K475102, K475103 |
| Gaffney Prospect (52F/07SW) | Au | Reserves: 300 000 tonnes at 0.15 opt Au | CMH, 1990–91, p.393 | Inactive, Patents K3594-3595 |
| Golden Star Mine (52C/10NE) | Au | Production: 10 758 oz Au and 34 oz Ag from 19 345 tons<br>Reserves: 20 000 tons at 0.42 opt Au and 35 000 tons at 0.15 opt Au (tailings dump) | MDC 16, p.20 | Inactive, Patented Claim AL116, Leased Claim K44632 |

| Deposit Name (NTS) | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status (as of Jan. 2005) |
|---|---|---|---|---|
| Goldlund Mine (52F/16NW) | Au | Production: 111 891 tonnes at 0.15 opt Au (Dec. 84)<br>Reserves: 781 000 tonnes at 0.14 opt Au with 150 000 tonnes at 0.15 opt Au that can be mined by open pit | AF 52F/16NW 081 Locke Riche Minerals Ltd.<br>CMH 1995–96, p.223 | Inactive. Patented claim KRL 18802 |
| Gordon Lake Mine (52L/07NW) | Cu, Ni, PGE | Production: 1.6 Mt at 0.78% Ni, 0.41% Cu and 0.026 opt Pd (Dec.71)<br>Reserves: 170 420 tonnes at 0.85% Ni and 0.35% Cu (Dec.71) | OFR 5975, p.121 | Inactive. Mining Patents KRL 19096-97, 29065-66, 30055, 31373-74, 31823-26, 31829-32, 33206, 33208, 33210, 36272-74 |
| High Lake Porphyry (52E/11NE) | Cu, Mo, Au | Zone: 61m long by 77m wide containing assay values of 0.10% to 1.35% Cu and 0.01 to 0.05 opt Au | GR 41, p.46 | Inactive, leased claim K32307 |
| High Lake Prospect (Eco Occurrence) (52E/11NE) | Mo, Au | Reserves: 126 000 tonnes at 0.68% $MoS_2$ and 0.015 opt Au<br>Indicated: 200 000 tonnes at 0.63% $MoS_2$<br>Inferred: 550 000 tonnes estimated to a depth of 145m | OFR 5695, p.114 | Inactive, patented claims K8705, K8707 and staked claims |
| Kenbridge Prospect (52F/05NE) | Ni, Cu | Reserves: 2.705 Mt at 1.05% Ni and 0.54% Cu (to a depth of 600m) | Press release, Blackstone Ventures, 6/04/2004 | Inactive, patented claims K6672, K6634, K6635 |
| Kenricia Mine (52E/10NE) | Au, Ag | Production: 2553 oz Au and 521 oz Ag from 24 344 tons<br>Reserves: 53 201 tonnes at 0.362 opt Au (1935) | MDC 16, p.23<br>AF 52E/10NE E-1 | Inactive, Patented Mining Land P211 |
| Laurentian Mine (52F/07NE) | Au | Production: 8140 oz Au from 19 950 tons (grade 0.41 opt Au)<br>Reserves (Au): Possible: 50 650 tonnes at 0.25 opt; Speculative: 20 000 tonnes at 0.10 opt on dump | MDC 16, p.24<br>OFR 5332, p.37 Table 8 | Inactive, Patented Mining Land HP 371 |
| Lockhart Lake (52C/10NW) | Zn, Cu, Au, Ag | Reserves: 6.1 Mt at 1.06% Zn, 0.27% Cu, 3.2 gt Ag and 0.006 gt Au | AF 52C/10NE Y-6 (Minnova 1989) | Inactive, Patented claims K417852-854, K418156-157, K446504-509 |
| Lyon Lake Zone (Creek Zone) (52G/15NW) | Cu, Zn, Pb, Ag | Original Reserves: 3.945 Mt at 6.53% Zn, 1.24% Cu, 0.63 % Pb, 3.42 opt Ag and 0.01 opt Au<br>Reserves: 0.695 Mt of 10.34% Zn, 0.75% Cu, 1.62% Pb and 5.96 opt Ag | CMH 1979–80, p.194 (Noranda)<br>CMH 1990–91, p.332 (Noranda) | Closed Mine, Patented claim CLM 185 |
| MacKenzie-Grey (52C/10NE) | Au | Reserves: 98 702 tonnes at 0.30 opt Au | AF 52C10NE DDD-4 (Nipigon Gold) | Active, Patented claim K75 |
| Marchington Road Deposit (52J07SE) | Cu, Zn, Pb, Ag | Reserves: 150 000 tonnes at 0.98% Cu, 3.11% Zn, 1.16% Pb, 1.97% Ag | Umex Inc.<br>AF 52J/7SW 0024 | Inactive, Patented claim CLM 337 |
| Mattabi Mine (52G/15SW) | Cu, Zn, Pb, Ag | Original Reserves: 13.66 Mt at 7.50% Zn, 0.80% Cu, 0.77% Pb and 3.10 opt Ag<br>Reserves: 0.387 Mt of 0.13% Cu, 9.28% Zn, 0.58% Pb and 1.77 opt Ag | GR 221, p. 4<br>CMH 1988–89, p.338 (Noranda) | Closed Mine, Patented claims GTP Block 7 |

| Deposit Name (NTS) | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status (as of Jan. 2005) |
|---|---|---|---|---|
| Mavis Lake Prospect (52F/15SE) | Li, Ta | Reserves: 500 000 tonnes of 1% $LiO_2$ | OFR 5718, p.151 | Inactive. Leased claims K498288-290, K 498292, K498308, K498140 |
| Maybrun Mine (52F/05NE) | Cu, Au | Production: 125 000 tonnes at unknown grades (Aug.73 to Dec.74)<br>Reserves: 2.8 Mt at 1.18 % Cu and 0.08 opt Au (1966) | MDIR K0203<br>AF 52F/5NE P-1 | Inactive, care and maintenance. Patented claims K15364-15381, K15524-15527 |
| Mikado Mine (52E/10SW) | Au | Production: 31 000 oz Au<br>(see Cedar Island Deposit) | Amador Gold Corp. | Inactive. Patented mining claim D148 |
| Mironsky Prospect (52C/11NE) | Cu | Zone: 122m long by 10m wide zone to a minimum depth of 90m averaging 0.53–1.01% Cu<br>Reserves: 300 000 tonnes at 0.8% Cu (estimated) | MDC 29, p.42 | Inactive, Staked claim 1238036 |
| Norpax (Reynar Lake) (52L/06NE) | Ni, Cu | 2002 Drilling intersected 3.35m of 1.308 gpt PGE and 2.94% Cu, Ni<br>Reserves: 1 Mt at 1.2% Ni and 0.5% Cu | Press release, Atikwa Minerals, 08/28/2003 Norpax Nickel Mines Ltd., AF | Inactive. Patented claims KRL350101 and KRL34767 |
| North Kaskaweogama Prospect (52J/07NW) | Fe | Reserves: 405 000 tons at 28% Fe in 4 zones and a possible 50 Mt at unstated grade | MRC 11, p.443 | Inactive. Open Crown Land |
| North Pines Mine (52K/01SE) | Pyrite | Production: 500 000 tonnes at 28% Fe (1909–21)<br>Reserves: open | GR 101, p.36 | Inactive. Patented claim HW 715 |
| North Rock Mine (South Grassy) (52C/11NE) | Cu | Zone: 400m x 2–30m x 91m<br>Reserves: 1.1 Mt at 1.17 % Cu including 265 230 tonnes at 2.08% Cu | OFR 5512, p.50 | Active, 8 Staked claims |
| Pidgeon Molybdenum Mine (52F/16NW) | Mo | Resource: 416 000 tonnes of 0.57 % Mo | Hall 1965, p.1 | Inactive. Patented claim Pa 14051 |
| Port Arthur Copper (51C/15SE) | Cu, Zn | Production: 26 509 lbs Cu<br>Estimated Reserves: 48 895 tonnes at 1.18% Cu and 0.43% Zn | Ravnaas and Raoul (2002, p.55) | Inactive, patented claim FF4261 |
| Purdex Prospect (A-D Zones) (52E/11NE) | Au | Reserves:<br>1) 76 500 tonnes at 0.308 opt Au (indicated tonnage in 4 zones)<br>2) 241 000 tonnes at 0.226 opt Au in the P, A, B and C zones | OFR 5695, p.273<br>CMH, 1995–96 p.233 | Inactive, patented claims K25130, K25131 |
| Rainy River Zone 17, 34 (52D/16SE) | Au, PGE, Cu, Ni | Zone 17:<br>Indicated Resource: 1.74 Mt of 1.56 g/t Au, 0.03% Cu, 0.21% Zn and 4.0 g/t Ag<br>Inferred Resource: 11.0 Mt of 1.33 g/t Au, 0.02% Cu, 0.20% Zn and 3.60 g/t Ag<br>Zone 34 Resource: Weighted average grades of 2.19% Ni, 1.55% Cu, 0.11% Co, 2.51 g/t Pt, 5.91 g/t Pd, 3.20 g/t Au and 19.0 g/t Ag | Press release, Nuinsco Resources, 12/17/2004<br>Press release, Nuinsco Resources, 12/17/2004 | Active, Patented Land |

| Deposit Name (NTS) | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status (as of Jan. 2005) |
|---|---|---|---|---|
| Regina Mine (52E/08NE) | Au, Ag | Production: over 8000 oz Au and 1460 oz Ag from 36 828 tons<br>Reserves (Au):<br>Speculative: 19 650 tonnes at 0.44 opt with 30 000 tonnes at 0.106 opt in tailings | MDC 16, p.34<br>AF 52E/8NE Q-1<br>NM 07/25/88, p.7<br>Sweaney Gold Corp. | Inactive, Patented claims P566-67 |
| Richard Lake Prospect (52F/13SW) | U | Zone: 213m x 3m x 300m<br>Reserves: 650 000 tonnes of 0.10% $U_3O_8$ | GR 130, p.46 | Inactive, Patented claim K18761 |
| Sakoose Mine (52F/09SW) | Au, Ag | Production: 3669 oz Au and 145 oz Ag from 8828 tons<br>Reserves: 50 000 tonnes at 0.41 opt Au | MDC 16, p.36 | Inactive, Staked claim 1244771 |
| Scramble Mine (Homestake) (52E/16SW) | Au | Zone: 366m to 457m x 3.7m wide zone at 0.15 opt Au<br>Reserves: 150 000 tonnes at 0.24 opt and 70 000 oz (at 0.05 opt cut-off) drill indicated | NM 07/25/88 (Madeline Mines Ltd.)<br>CIMM, Dist.4 Field Trip Guidebook, p.44 | Inactive, Jaffray Tp., Con.6, Lots 13 and 14 |
| St Anthony Mine (52J/02SE) | Au | Production: 331 069 tons at 0.19 opt Au<br>Reserves: 37 800 tons at 0.18 opt Au | MRC13, p.295 | Inactive, Patented claim BG 154 |
| Straw Lake Beach Mine (52F/03NW) | Au, Ag | Production: 11 568 oz Au and 1049 oz Ag from 33 662 tons<br>Reserves (Au):<br>Probable: 32 000 tonnes at 0.20 opt,<br>Possible: 32 000 tonnes at 0.20 opt and 30 000 tonnes at 0.15 opt<br>Speculative: 48.000 tonnes 0.20 opt | MDC 16, p.38<br>OFR 5332, table 14, p.47 | Inactive, 10 Patented mining claims K4021-4022, K4035-4040, K9037-9040 |
| Sturgeon Lake Mine (52G/15NW) | Cu, Zn, Pb, Ag | Original Reserves (Dec/74): 2.10 Mt at 10.64% Zn, 2.98% Cu, 1.47% Pb, 6.14 opt Ag and 0.021 opt Au<br>Reserves (Dec/78): 599 000 tonnes at 2.34% Cu, 8.98% Zn, 1.30% Pb, 5.17 opt Ag and 0.018 opt Au | GR 221, p.4<br>CMH 1980–81, p.102 (Falconbridge) | Inactive, Patented claim |
| Sultana Mine (52E0/9NW) | Au | Production: 15 977 oz Au from 77 481 tons (grade of 0.21 opt)<br>Reserves: none available | MDC 16, p.38 | Inactive, Patented mining claim K489932 and claim 1086199 |
| Tabor Lake Mine (52F/09SW) | Au, Ag | Production: 36 oz Au and 4 oz Ag from 87 tons<br>Indicated Reserves: 50 000 tons at 0.5 opt Au | MDC 16, p.39 | Inactive, 37 patented claims, mine site on K502044 |
| Thunder Lake Deposit (52 F/15SE) | Au | Bulk Sampling: 428 oz Au and 1161 oz Ag from 2365 tonnes<br>Inferred Resource: 2.974 Mt averaging 6.47 g/t Au | Corona Gold 1999 Annual Report, CMH, 2004–2005, p.127 (Corona Gold Corp.) | Inactive, Patented and Staked claims |
| Vanlas Prospect (52F/10NW) | Au | Reserves: 100 000 tonnes at 0.20 opt Au | Power Expl. Inc. AF 52F/10NW UU-1 | Inactive, patented claim K70627 |
| Victor Island Prospect (52F/05SE) | Au | Reserves: Drill indicated 300 000 tonnes at 0.12 opt Au to a depth of 213m | MP 128, p.16 | Inactive, patented claim K4712 Claims 690655, 718785 |

| Deposit Name (NTS) | Commodity | Tonnage-Grade Estimates and/or Dimensions | Reserve References | Status (as of Jan. 2005) |
|---|---|---|---|---|
| Wendigo Mine (52E/09NE) | Au, Ag, Cu | Production: 67 423 oz Au, 14 762 oz Ag and 1.89 million lbs of Cu from 206 054 tonnes<br>Reserves (Au):<br>Vein 1: 110m x 0.8m x 230m depth at 0.33 opt Au (production vein)<br>Vein 2: 118m x 0.6m<br>Vein 3: 180m x 0.3m<br>Vein 4: unknown<br>Tailings: 61 970 tonnes at 0.027 opt Au | SMDR 001350<br>OFR 5695, p.352 | Inactive, Patented mining claims MH 208-210 |
| Werner Lake Cobalt (52L/07NW) | Co, Cu | Production: recovered 389 363 lbs of Co (1932, 1940–44); grades 2% Co and 0.75% Cu<br>Reserves: 1.01 Mt at 0.31% Co and 0.29% Cu | MDC 1, p.37<br>Press release, Canmine Resource, 02/09/1999 | Inactive, Patented mining claim KRL 9383 |
| West Cedartree–Angel Hill Gold Zone (52F/05SW | Au | Inferred Resource (NI43-101): 106 000 tonnes at 2.97 gpt Au with 2.0 gpt Au cut-off | Press release, Houston Lake Mining, 10/20/2005 | Active, Patented claim K10026 |
| Wind Bay Prospect (52C/10NW) | Zn, Cu | Zone: 1300m x 46m x 10m<br>Estimated Resource: 1.79 Mt at 1.5% Zn and 0.2% Cu | OFR 5512, p.89 | Inactive, Patented mining claim 594P |

The reference to resources is based on data before National Instrument 43-101 went into effect. These resources calculations may not meet criteria for National Instrument 43-101.

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# Metric Conversion Table

| Conversion from SI to Imperial | | | Conversion from Imperial to SI | | |
|---|---|---|---|---|---|
| *SI Unit* | *Multiplied by* | *Gives* | *Imperial Unit* | *Multiplied by* | *Gives* |
| | | LENGTH | | | |
| 1 mm | 0.039 37 | inches | 1 inch | **25.4** | mm |
| 1 cm | 0.393 70 | inches | 1 inch | **2.54** | cm |
| 1 m | 3.280 84 | feet | 1 foot | **0.304 8** | m |
| 1 m | 0.049 709 | chains | 1 chain | 20.116 8 | m |
| 1 km | 0.621 371 | miles (statute) | 1 mile (statute) | **1.609 344** | km |
| | | AREA | | | |
| 1 $cm^2$ | 0.155 0 | square inches | 1 square inch | **6.451 6** | $cm^2$ |
| 1 $m^2$ | 10.763 9 | square feet | 1 square foot | **0.092 903 04** | $m^2$ |
| 1 $km^2$ | 0.386 10 | square miles | 1 square mile | 2.589 988 | $km^2$ |
| 1 ha | 2.471 054 | acres | 1 acre | 0.404 685 6 | ha |
| | | VOLUME | | | |
| 1 $cm^3$ | 0.061 023 | cubic inches | 1 cubic inch | **16.387 064** | $cm^3$ |
| 1 $m^3$ | 35.314 7 | cubic feet | 1 cubic foot | 0.028 316 85 | $m^3$ |
| 1 $m^3$ | 1.307 951 | cubic yards | 1 cubic yard | 0.764 554 86 | $m^3$ |
| | | CAPACITY | | | |
| 1 L | 1.759 755 | pints | 1 pint | 0.568 261 | L |
| 1 L | 0.879 877 | quarts | 1 quart | 1.136 522 | L |
| 1 L | 0.219 969 | gallons | 1 gallon | **4.546 090** | L |
| | | MASS | | | |
| 1 g | 0.035 273 962 | ounces (avdp) | 1 ounce (avdp) | 28.349 523 | g |
| 1 g | 0.032 150 747 | ounces (troy) | 1 ounce (troy) | **31.103 476 8** | g |
| 1 kg | 2.204 622 6 | pounds (avdp) | 1 pound (avdp) | **0.453 592 37** | kg |
| 1 kg | 0.001 102 3 | tons (short) | 1 ton (short) | **907.184 74** | kg |
| 1 t | 1.102 311 3 | tons (short) | 1 ton (short) | **0.907 184 74** | t |
| 1 kg | 0.000 984 21 | tons (long) | 1 ton (long) | **1016.046 908 8** | kg |
| 1 t | 0.984 206 5 | tons (long) | 1 ton (long) | **1.016 046 90** | t |
| | | CONCENTRATION | | | |
| 1 g/t | 0.029 166 6 | ounce (troy)/ ton (short) | 1 ounce (troy)/ ton (short) | 34.285 714 2 | g/t |
| 1 g/t | 0.583 333 33 | pennyweights/ ton (short) | 1 pennyweight/ ton (short) | 1.714 285 7 | g/t |

## OTHER USEFUL CONVERSION FACTORS

| | *Multiplied by* | |
|---|---|---|
| 1 ounce (troy) per ton (short) | 31.103 477 | grams per ton (short) |
| 1 gram per ton (short) | 0.032 151 | ounces (troy) per ton (short) |
| 1 ounce (troy) per ton (short) | 20.0 | pennyweights per ton (short) |
| 1 pennyweight per ton (short) | 0.05 | ounces (troy) per ton (short) |

*Note: Conversion factors which are in bold type are exact. The conversion factors have been taken from or have been derived from factors given in the Metric Practice Guide for the Canadian Mining and Metallurgical Industries, published by the Mining Association of Canada in co-operation with the Coal Association of Canada.*

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